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EDUCATION BEYOND THE HIGH SCHOOL

A PROJECTION FOR OREGON

a report

of the Post-High School Study Committee
a subcommittee appointed by the
Educational Coordinating Council

october 7, 1966

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Foreword

On November 18, 1964, the presidents of the public and independent colleges and universities of Oregon, at a statewide meeting of the group, adopted a resolution addressed to the Educational Coordinating Council, calling for the development in Oregon of a "Master Plan" for education beyond the high school. The resolution further called for the proposed study to be made by and under the supervision of a committee to be appointed by the Educational Coordinating Council and consisting of college and university presidents ". . . representing the various segments of post-high school education, both public and private . . ." in Oregon.

Accordingly, on January 29, 1965, the Educational Coordinating Council appointed the present committee and charged it with the development of a report meeting the needs identified in the foregoing resolution. As the basis for its work, and that of its staff, the committee identified, at the outset of its operation, an extended series of questions concerning the present and future status of education beyond the high school in Oregon. These questions - some 30 pages of them - formed the basis for the development of the information and data needed by the committee in developing this present report.

The committee has held 38 work sessions in the 20 months since it was formed. These committee work sessions have involved a variety of activities, including the following: (1) discussions with representatives of business, education, labor, and government, concerning factors related to Oregon's post-high school educational needs and the nature of the post-high school educational resources required to meet these needs, (2) review, discussion, and evaluation of staff reports prepared for the committee by a wide variety of agencies and individuals, (3) development of the committee's position relative to the various issues related to providing effective post-high school educational programs in Oregon in the years just ahead, and (4) review of drafts of the committee's report. We present herewith the product of these activities.

We acknowledge here, and in the following pages, the contributions that many others have made to the committee's efforts. We are grateful for this help. Without it, we should not have been able to develop our report. We would emphasize, however, that, though the committee benefited enormously from the views, both oral and written, of a great many people, the final responsibility for the conclusions drawn in the report is the committee's.

Oregon Post-High School Study Committee

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President James H. Jensen	Oregon State University
President Leonard Rice	Oregon College of Education
Dr. Wendell Van Loan	University of Oregon (formerly President of Southwestern Oregon Community College)
President Paul Waldschmidt	University of Portland
President John Howard	Lewis and Clark College, Chairman

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Acknowledgements

Special acknowledgement is due the various post-high school institutions and agencies for the information provided concerning their operations - the independent colleges and universities, the institutions of the state system, the community colleges, and the private vocational schools of Oregon.

The cooperation of these agencies and institutions has been splendid. In this cooperative project has been laid the foundation for continuing cooperation among these institutions and agencies in the maintenance of comparable planning data which will permit this present report to be brought up-to-date regularly. As these planning data are refined, and their accumulation automated, we shall have in Oregon a data bank of inestimable value in the maintenance of comprehensive long-range plans for education beyond the high school in Oregon. We are of the view that this may be one of the most important of the outcomes of this present report.

During the course of its work the committee held a number of sessions in which it sought to explore the views of representative leaders in education, business, labor, and government. These sessions were immensely helpful to the committee. Those participating in these sessions were:

Governor Hatfield; Mr. Freeman Holmer, Director, Department of Finance and Administration.

Speaker of the House, F. F. Montgomery; Senators Ward Cook and Al Flegel; Representatives Edward Branchfield, John Dellenback, Stafford Hansell, Carrol Howe, Lee Johnson, Ross Morgan, and John Mosser.

Members of the Legislative Interim Committee on Education.

Members of the Governor's Educational Coordinating Council (now the Educational Coordinating Council).

Chancellor Roy E. Lieuallen, Oregon State System of Higher Education; Dr. Leon P. Minear, State Superintendent of Public Instruction.

Mr. Larry R. Coons, Assistant Director, Portland Development Commission; Mr. Oliver C. Larson, Industrial Manager, Portland Chamber of Commerce; Mr. Larry Dinneen, Deputy Administrator, Division of Planning and Development, Oregon State Department of Commerce; Mr. Lee Ohmart, Salem, representing the Association of Oregon Industries; Mr. James P. Johnson, Vice President, Standard Insurance Company; President Miller Ritchie, Pacific University.

Mr. Eugene Fisher, Chairman, State Board of Education; Mr. Tom Scanlon, State Board of Education; Mr. Charles Holloway, President, State Board of Higher Education; Mrs. William Josslin, State Board, Colleges for Oregon's Future; Mrs. Cheryl MacNaughton, Vice Chairman, Colleges for Oregon's Future; Mr. Ursel Narver, State Secretary, Colleges for Oregon's Future; and the following county representatives of Colleges for Oregon's Future: Mr. John Fenner, Benton County; Mr. John Pfaff, Polk County; Mr. Douglas Strain, Tri-County;

Mrs. Phyllis Weiner, Tri-County; Dr. Ralph Steetle, Division of Continuing Education.

Mr. Tom Burch of the United Student Aid Fund (New York); Dean E. B. Lemon of the State Scholarship Commission; Mr. Tom Rigby, Executive Secretary, Oregon School Boards Association.

Agencies and individuals to which and to whom the committee is deeply indebted for information and data supplied the committee (generally in the form of written reports) are as follows, presented in the sequence of the chapters of this report. Some of the individuals listed contributed two or more reports to the committee, though the individual is listed but once.

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Mr. James Turnbull, Executive Secretary of the Educational Coordinating Council, and Mr. Walter Daggett, Executive Secretary of the Legislative Interim Committee on Education, participated in numerous of the committee's work sessions. We are indebted to them for the insights they brought to the committee in many areas.

Dr. Miles C. Romney, Vice Chancellor for Academic Affairs, Oregon State System of Higher Education, served the committee as coordinator of the study. Mr. George Diel, Assistant Director of Public Services, Oregon State System of Higher Education, had particular responsibility for the public relations aspects of the committee's activities.

Mrs. Clarethel Kahananui of the Office of Academic Affairs, Oregon State System of Higher Education, has assumed the burdens of editing the report in its various preliminary and final forms and of overseeing its publication. To her the committee is greatly indebted.

The committee wishes also to express its appreciation to Mr. Guy Lutz, Associate Director of the Office of Institutional Research of the State System of Higher Education, for special assistance given the committee in many aspects of the study.

The secretarial staffsof the Office of Academic Affairs, the Office of High School Relations, the Office of Institutional Research, of the Oregon State System of Higher Education, and the Oregon State Scholarship Commission have given the committee service above and beyond the call of duty in typing and reproducing the numerous versions through which the committee's report has gone in reaching the present stage. This secretarial pool has consisted of:

Mrs. Janice Denny
Miss Mary Everett
Mrs. Letty Fotta
Miss Anne Haralson
Miss Janet Hushour
Mrs. Mona Jamsgard
Mrs. Betty Ann Klebe
Mrs. Twila McMahon
Mrs. Irma Martin
Mrs. Beverly Matychuck
Miss Janice Vandiver

And finally, we express appreciation to the Educational Coordinating Council for financial assistance in certain portions of this study, and for the funds with which to meet the costs of its publication.

Table of Contents

Chapter Page

I SELECTED FACTORS RELATED TO POST-HIGH SCHOOL OBJECTIVES 1

Population Factors 1
Employment Patterns 2
Economic Growth 4
Mounting Aspirations of Our People 6

II OBJECTIVES OF POST-HIGH SCHOOL EDUCATION IN OREGON 7

Premises 7
Objectives 8

III SELECTED OREGON POPULATION CHARACTERISTICS AND ENROLLMENT TRENDS . . 13

Selected Population Characteristics 13
Trend in Population Growth in Oregon, 1940 to 1980 15
Geographic Distribution of Oregon's Population 16
Selected Educational Data - Persistence in School 16
Projections of Enrollments in Oregon in the Oregon State System of Higher Education, Public Community Colleges, and the Independent Colleges and Universities 23

IV MAKING POST-HIGH SCHOOL EDUCATION EFFECTIVELY AVAILABLE 34

The Transition from High School to Post-High School Education and Training Activities 35
Admissions Policies 44
Tuition and Fees - Oregon Public Institutions 48
Student Financial Aid Programs 62

V POST-HIGH SCHOOL UNDERGRADUATE PROGRAMS 89

Institutional Units of the Post-High School Educational Structure in Oregon 95
Categories of Post-High School Educational Programs in Oregon 105
Vocational-Technical Occupational Education and Training 108
Post-High School Vocational-Technical Education in Oregon 114
Apprenticeship Training 115
Academic Programs at the Two- and Four-Year Levels 125
Extent to Which Oregon's Graduating High School Seniors Avail Themselves of Post-High School Educational Opportunities 126
An Increasing Proportion of our Population Will Seek Post-High School Educational Opportunities 139

Chapter | Page

VI GRADUATE EDUCATION 141

Purposes of Graduate Education 141
Graduate Education the Pacesetter 143
The Growth of Graduate Education 144
Graduate Education in Oregon 151
Expansion of Graduate Study and Research Resources in the Metropolitan Portland Area 174
Recommendations of the Post-High School Study Committee Vis-a-Vis the Expansion of Graduate Study and Research Opportunities in the Metropolitan Portland Area 188

VII PROPRIETARY SCHOOLS 193

A Review of the Proprietary Schools in Oregon 194
Legislative Action 1963-1965 Affecting Proprietary Schools 199
Implementation of 1965 Legislation Relating to Proprietary Schools . 202
Steps to Further Increasing the Capacity of Proprietary Schools for Effective Service to Oregon 203

VIII COMMUNITY COLLEGES - A NEW EDUCATIONAL RESOURCE 209

A New College for a New Society 209
The Development in Oregon 214
Recommendations 220

IX STATE SYSTEM OF HIGHER EDUCATION 251

The Oregon State System of Higher Education 251
Curricular Developments in the State System 252
Board Policy as to Curricular Allocations 254
Character of the Institutions Within the State System of Higher Education 258
Board Policies Re: Building Usage Standards and Building Planning . 271
Capital Construction Policies of the State Department of Higher Education 272
Admissions Policies in State System Institutions 272
Budgetary Policies 273
Recommendations 273

X INDEPENDENT COLLEGES AND UNIVERSITIES 275

XI CONTINUING EDUCATION 291

Existing Patterns of Continuing Education in Oregon 292
Recommendations 294

XII FACULTY CONSIDERATIONS 299

Projected Demands for Faculty in Oregon's Colleges and Universities . 300
Maintaining Quality of the Faculty in the Face of Increasing Demand . 300
Maintaining Oregon's Competitive Position 307
The Uses of the Faculty 322

XIII SELECTED EDUCATIONAL RESOURCES 337

Libraries 337
Development of Needed Computer Facilities 339
Educational Television 340

Chapter Page

XIV PHYSICAL PLANT 357

Measures of Space Utilization 359
Space Management and Planning 360
Recommendations 380

XV STATE FINANCIAL RESOURCES 387

XVI STATE-LEVEL COORDINATION AND ADMINISTRATION 393

Some Alternatives Suggested for Coordination of Education in Oregon 397
The Committee's Evaluation of the Alternatives 397
Recommendations of the Committee 399

XVII SUMMARY 403

Need for Variety in Post-High School Educational Learning Opportunities 403
Numbers to Be Accommodated in Post-High School Education 405
What Are the Educational Resources in Oregon With Which to Meet the Demands for Post-High School Education? 407
What Institutional Roles Will Insure a Varied Post-High School Educational Fare in Oregon? 411
How Will the Anticipated Enrollments in Oregon's Colleges and Universities be Accommodated? 427
What Are the Projected Instructional Staff Needs? 428
What Are the Capital Outlay Projections and Physical Plant Plans for Meeting the Enrollment Demands? 434
Making Post-High School Education Effectively Available 438
Selected Educational Resources in Oregon 440
Continuing Education in Oregon 441
State-Level Coordination and Administration of Post-High School Education 442
State Financial Resources 445

APPENDIX

Brief Summary of Student Financial Aid Programs in New York, Illinois, California, and Pennsylvania 447

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List of Figures

Figure Page

I Percent Change in Employment Estimated for the Decade 1960-1970 . . 3

II Population of Oregon: 1960 and 1980, Zero Net Interstate Migration, by Age and Sex 14

III Population Density by Counties in Oregon: 1960 19

IV Population Forecast for 1970 Compared with 1960 Population 20

V Estimated Oregon College-Age Population with Average-Term FTE Enrollments in Oregon Colleges and Universities - 1956-57 to 1974-75 25

VI Why College Enrollments Will Rise 31

VII Average-Term FTE Enrollments in Oregon Colleges and Universities . 34

VIII Proprietary Vocational Schools Operating in Oregon, September 1965 97

IX Types of Technical Occupations in Industry 109

X The Spectrum of Technical Jobs 111

XI Comparison of Curriculum Content Distribution in Machine Shop Practice, Mechanical Technology, and First Two Years of Mechanical Engineering 112

XII Map Showing Location of Independent and Public Colleges and Universities in Oregon 127

XIII Locations and Commuting Areas of Oregon's Sixteen Publicly Supported Institutions Offering Liberal Arts Programs 128

XIV Map Showing Locations of Oregon's Eleven Community Colleges 129

XV Community College Districts, Locations of Colleges, and Area Within 40-Mile Radius of Each College 130

XVI Numbers of 1966 Graduates (in Hundreds) From High Schools Located Within 25 and 40 Miles of State System Multi-Purpose Institutions 131

XVII Five-Year Comparative Distribution of Post-High School Activities of Oregon High School Graduates as Determined by a Random 10 Percent Sample of Each Class, 1961 Through 1965 135

Figure | | Page
XVIII Five-Year Comparison of Post-High School Activities of the Random 10 Percent Samples of the Graduates of the Classes of 1961-1965 . 136

XIX Where Oregon High School Graduates Attend College as Determined by a Random Sample of the Classes of 1961 Through 1965 137

XX Proprietary Vocational Schools Operating in Oregon, September, 1965 195

XXI Status of Community College Development as of June 1, 1966 219

XXII Department of Higher Education Organizational Structure 253

XXIII Salary Plan I, State System of Higher Education 316

XXIV Salary Plan II, State System of Higher Education 317

XXV Department of Higher Education Organizational Structure 394

XXVI Organization of the Oregon Department of Education 395

List of Tables

Table		Page
1	Population Growth in Oregon and the United States, Actual and Projected, for Selected Years 1950-1980	15
2	Population, State of Oregon by Age Group, April 1, 1960, Forecast April 1, 1965-1970, Estimated April 1, 1975-1980	17
3	Population of Counties and State Economic Areas of Oregon, April 1, 1960, and Forecast April 1, 1965 to 1985	18
4	Percent of Ninth Grade Class Which Graduated from High School . . .	21
5	Percent of High School Drop-outs in Oregon by Grade and by Year . .	22
6	Number of Graduates Oregon Public and Private High Schools	23
7	Full-Time-Equivalent Average Term Enrollments in Oregon Colleges and Universities - 1956-57 to 1974-75	24
8	Percent of Total College Enrollment in Oregon in State System Institutions, Public Community Colleges and Independent Colleges .	33
9	Yearly Undergraduate Tuition and Fees, Institutions of Oregon State System of Higher Education (1955-56 and 1965-66)	49
10	Yearly Tuition and Fees, Oregon Community Colleges, 1966-67	50
11	Tuition and Fees in State System Institutions Related to Per Student Operating Costs, 1957-58 to 1964-65	51
12	Yearly Tuition and Fees in Publicly Supported Medical Schools in Selected States, 1966-67	54
13	Yearly Undergraduate Tuition and Fees at State Universities in Oregon and in Ten Comparable States, 1954-55 and 1965-66	55
14	Yearly Tuition and Fees - Independent Colleges and Universities Academic Years, 1955-56 and 1965-66	56
15	Student Financial Aid Programs Administered by the State Scholarship Commission 1965-66	66
16	Summary of State Scholarships Held by students (Resident, Nonresident, and Foreign) for the Year 1964-65, by Institution, Number, and Cost at the Institutions Indicated	69

Table		Page
17	Summary of Scholarships Held by Oregon Students for the Year 1964-65, by Institution, Kind of Scholarship, Number and Cost . . .	70
18	Funds Made Available by the State to State System Institutions as Institutional Capital Contributions for National Defense Student Loan Program and Other Federal Student Loan Programs . . .	71
19	Grants, Loans, and Employment for Undergraduate Students in Institutions of the Oregon State System of Higher Education (Except the University of Oregon Medical School), 1955-56 and 1964-65	72
20	Grants (Gift Aid), Loans, and Employment (Handled through Campus Employment Offices) for Undergraduate Students Enrolled - State System Institutions, Independent Colleges, and Community Colleges - Oregon, 1964-65	73
21	Grants, Loans, and Employment for Undergraduate Students at Ten Independent Colleges and Universities 1955-56 and 1964-65	74
22	Grants to Undergraduate Students at Nine Independent Colleges and Universities 1964-65 by Source of Funds	74
23	Estimated State Funds Needed Each Year for Grants to Students Enrolled in State System and Independent Colleges and Universities and Community Colleges at Level Projected for Students in State System Institutions 1966-67	85
24	Vocational Curricula Offered at Oregon Community Colleges, 1965-66	98
25	OSSHE - Approved College Transfer Programs Expected to Be Available at Oregon Community Colleges - 1966-67	99
26	Technical Programs Offered by Institutions of the State System of Higher Education 1966-67	100
27	Professional Programs Offered by Institutions of the State System of Higher Education 1966-67	101
28	Preprofessional Programs Available at State System Institutions as Listed in 1966-67 Catalogs	102
29	Undergraduate Liberal Arts Programs Offered by Institutions of the State System of Higher Education 1966-67	103
30	Baccalaureate Degree Programs Offered by Independent Colleges and Universities 1965-66	106
31	Curricula Offered at OTI - 1965-66	118
32	OTI Total Fall Term Enrollments, By Division - 1960-1965	120
33	Anticipated Post-High School Activities Graduating Seniors Oregon High Schools 1962 to 1966	132

Table Page

34 Post-High School Activities (As of September Following Graduation) of Randomly Selected 10 Percent Sample of High School Graduating Classes in Oregon, 1961 to 1965 134

35 Post-High School Activities (in September Following Graduation) of Oregon High School Students Ranked in the Top 10 Percent of Their Class by School - 1961 Through 1965 138

36 Fields in Which Graduate Programs Are Offered in Institutions of State System of Higher Education as of 1966-67 153

37 Institutional Divisions and Other Concentrations Leading to a Master's or Doctor's Degree, Independent Colleges and Universities of Oregon 155

38 Summary of Graduate Degrees Granted in the State of Oregon 1955-56 Through 1964-65 157

39 Residence and Migration of Graduate Students in Selected States, Fall 1963 159

40 Graduate Enrollments Fall Term 1965-66 UO, OSU, PSC 162

41 Nonresident Graduate Students in Special Categories, UO, OSU, PSC - Fall 1965 163

42 Total Funds Expended for Research in Six of Major State-Supported Institutions 1955-56 Through 1964-65 166

43 Trends in Total Expenditures for Research by Source in Six of Major State-Supported Institutions 1955-56 Through 1964-65 167

44 Oregon Community College Physical Plant Construction 1961-1966 . . 226

45 Summary of Community College Capital Outlay Bienniums 1967-1969 Through 1973-1975 228

46 Unit Education Costs in 1964-65 229

47 Sources of Operating Revenue 1964-65 231

48 Projection of Approved Reimbursable Costs, Oregon Community Colleges, 1966-1975 232

49 Percent Distribution of Student FTE by Program, Oregon Community Colleges, 1964-65 235

50 Oregon Community Colleges Unduplicated Student Head Count - 1964-65 236

51 Community College Projected Reimbursable Enrollments 1966-67 to 1974-75 240

52 Geographic Distribution of Enrollment, University of Oregon, Oregon State University, and Portland State College 260

53 Geographic Distribution of Enrollment, Oregon College of Education, Southern Oregon College, and Eastern Oregon College 268

Table		Page
54	Continuing Education Enrollments, 1964-65 and 1965-66	271
55	Independent Colleges and Universities Annual Full-Time Equivalency of Students	278
56	Independent Colleges and Universities Fall-Term Head-Count Enrollment by Institution and Home Origin of Students	279
57	Independent Colleges and Universities Fall-Term Head-Count Enrollment by Institution and Housing	280
58	Independent Colleges and Universities Amount Assessed for Tuition and Fees by Institution, Actual 1955-56 - 1964-65, Estimated 1969-70 - 1974-75	281
59	Student Financial Aid, Independent Colleges and Universities, 1955-56 and 1964-65	282
60	Independent Colleges and Universities Improving Staff Utilization	284
61	Independent Colleges and Universities Full-Time Equivalency of Instructional Staff by Institution, Actual 1964-65 - 1965-66, Estimated 1966-67 - 1974-75	286
62	Instructional Staff (Full-Time Equivalencies) Oregon State System Institutions, Independent Colleges, Community Colleges, Actual and Projected, 1964-65 Through 1974-75	301
63	Highest Academic Degrees Held by Full-Time Teaching Faculty at Six State System Multi-Purpose Institutions 1960-61 to 1965-66	303
64	Highest Academic Degrees Held by Full-Time Teaching Faculty in Selected Independent Colleges and Universities in Oregon 1960-61 and 1964-65	304
65	Percentages of Full-Time Instructional Staff with Doctoral Degrees 1953-54 and 1962-63	307
66	Purchasing Power of Academic Salaries	311
67	Academic Salaries Compared with U. S. Per Capita Income	312
68	Average Faculty Salaries in State System of Higher Education 1955-56, 1964-65, and 1965-66	313
69	Composite Annual Salary Averages - Instructor Through Professor in 20 Selected State Universities	315
70	Salary Data, Academic-Year Teaching Staffs, 1957-58 and 1965-66, 19 State Universities and the UO-OSU Combined	318
71	Nonsalary Benefits - State System and Independent Colleges and Universities and Community Colleges, 1965	323
72	Projected Fall Term FTE Enrollments, State System of Higher Education Multi-Purpose Institutions, 1966-67 to 1976-77	359

Table Page

73 Classroom and Laboratory Utilization for Oregon Institutions by Institution and Hours per Week, Fall Term 1964 362

74 Utilization of Permanent Facilities, State System of Higher Education and Community Colleges, Fall Term 1965 363

75 Utilization Achievement Public Community/Junior Colleges in Other States 365

76 Utilization Achievements State-Supported Four-Year Institutions in Other States 365

77 1965 Summer Session Head-Count Enrollments at Institutions of the State System of Higher Education 366

78 Projected Oregon Community College FTE Compared with Actual FTE for Reimbursable Programs - 1964-65 367

79 Oregon Community College Unduplicated Student Head Count, Fall Term, 1965 368

80 Independent Colleges and Universities Actual (1964-65 and 1965-66) and Estimated (1966-67 Through 1970-71) Annual Full-Time Equivalency of Students 369

81 Capital Outlay in Excess of $50,000 Expenditure Independent Colleges and Universities Actual and Projected as of May 1966 370

82 State Board of Higher Education Priority Listing of Capital Construction, Land Purchases, and Architectural/Engineering Planning During 1967-1969 374

83 State Funds for Community College Capital Construction Allocated and Encumbered, July 1, 1961 Through April 1, 1966 378

84 Physical Plant Inventory of Permanent Facilities, Oregon Community Colleges, as of February 1966 379

85 Summary of Community College Capital Outlay Program, Bienniums 1967-1969 Through 1973-1975 380

86 Oregon College-Age Population as a Percentage of Total Population 1960 Through 1966 387

87 College-Age Population as a Percentage of Total Population July 1964 for Eleven Comparable States 388

88 Enrollments in Public Colleges and Universities in Oregon 1956-57 Through 1965-66 389

89 Per Capita State and Local Taxes in 1963-64 for the Fifty States as a Percentage of Personal Income, 1964 390

90 Contributions from State Tax Funds to Publicly Supported Higher Education Compared with Gross Personal Income for Oregon for Six Bienniums 391

Table Page

91 Relationship of Contribution from State Tax Sources to all State Funds and to Publicly Supported Higher Education in Oregon for Six Bienniums 391

92 State Tax Contribution to Operating Budgets of Oregon State System Institutions Compared with Enrollments for Six Bienniums 392

CHAPTER I

Selected Factors Related to Post-High School Objectives

The extent of the need for post-high school education in Oregon, and the kinds of post-high school educational programs that Oregon should provide for its youth in the years just ahead, depend upon the nature of the social, cultural, economic, and political forces at play. Some of these are national, some regional, and some state and local.

Let us review briefly what some of these forces are. They are not new. But a review of them will suggest some important considerations to be borne in mind in the development of the objectives for post-high school education in Oregon for the decade ahead.

Population Factors

The National Scene

From the most reliable sources of information about population trends,[1] we draw the following capsule statements of what may be expected. We caution the reader that the following are projections only, though they are based upon what we consider to be reputable sources.

1. Nationally, the population growth will continue to be very substantial.
2. One of the most striking features of population growth will be in the increase in the proportion of the population below the age of 20 and over the age of 65.
3. The productive age group (age 20-65) will increase in numbers but decline as a percentage of the total population.
4. The projected rapid growth of the older population will require attention to the services basic to their needs, while educational demands also increase.
5. Women will play an increasingly important role in the labor force.
6. Present patterns of population movement, characterized by great mobility and by a general shift from rural to urban areas, will continue, perhaps at an increased rate.

The Oregon Scene[2]

1. Though, over almost all of the past century, Oregon has grown at a faster rate than the United States, Oregon's rate of growth was slightly below the nation's

---

[1] Observations derived from U. S. Department of Health, Education, and Welfare, New Directions in Health, Education, and Welfare - Background Papers on Current and Emerging Issues 1963 (Washington, D. C.: Government Printing Office, 1963); and from U. S. Department of Labor, Bureau of Labor Statistics, "Manpower Resources and Use," Monthly Labor Review, Vol. LXXXVI, No. 3 (March, 1963), pp. 237-54.

[2] Observations derived from information from Oregon State Board of Census and University of Oregon Bureau of Business Research.

rate during the decade 1950-1960. It is expected to be at approximately the national rate of growth in the 1960's and slightly below the national rate in the 1970's (Table 1, Chapter III, p. 15).

2. Oregon's population growth will be due more to natural increase than to inmigration.

3. Though the labor force is expected to increase materially during the 1960's and 1970's, it is estimated that it may decline slightly as a proportion of the total population.

4. A marked increase in the population aged 18-24 is estimated for the 1960's.

5. Between 1950 and 1960 significant shifts of population within the state were discernible (rural to urban). The pattern of these shifts is expected to continue.

Employment Patterns

Changing technology makes difficult any precise indications of employment patterns of the next ten years. Yet long-time students of employment trends and patterns in the United States are confident of the following employment predictions.

The National Scene[1]

1. It is estimated that three million new jobs will have to be created annually.

2. Achieving full employment of the rapidly growing labor force will involve large employment gains in many nonfarm industries, especially since farm employment is expected to continue to decrease.

3. Professional and technical occupations, it is predicted, will be much the fastest growing during the 1960's, but above average employment growth is expected also in other white collar occupations, in occupations requiring skilled workers, and in the service occupations.

4. Unemployment is highest among unskilled workers with low educational attainment and the prediction is that despite the very substantial projected increase in employment opportunities, there will be no increase in unskilled jobs (Figure 1, p. 3).

5. Occupational skill requirements will continue to change and to rise as industrial and occupational changes occur. As change is continuous, so must learning on the part of the worker be lifelong.

The Oregon Scene[2]

1. The growth of the rest of the nation will be one of the prime determinants of change in Oregon's employment in the future.

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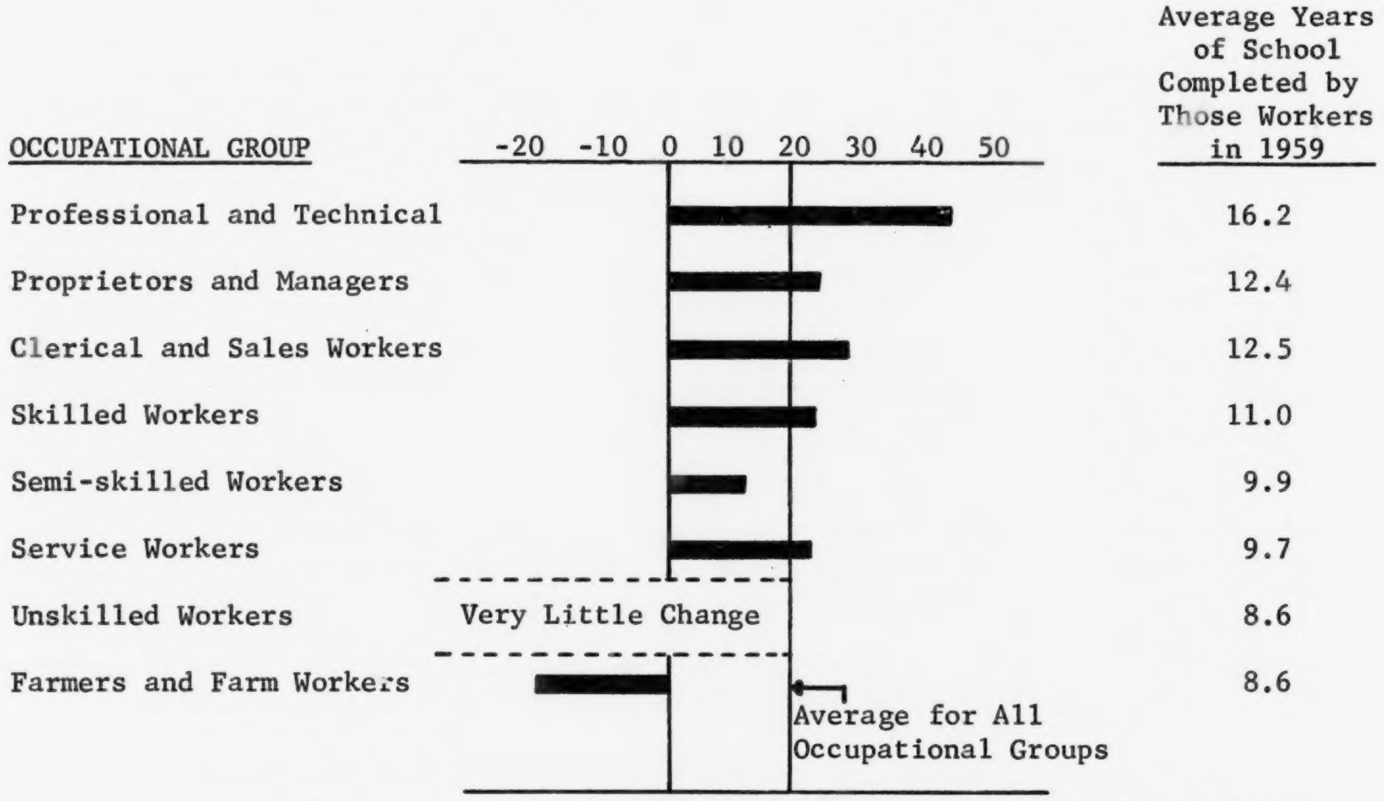
[1] Observations derived from U. S. Department of Labor, Bureau of Labor Statistics, op. cit., pp. 237-54; and from Norman C. Harris, Technical Education in the Junior College - New Programs for New Jobs (Washington D. C.: American Association of Junior Colleges, 1964).

[2] These observations drawn from D. A. Watson and W. C. Ballaine, "Oregon Employment Projections to 1975," Oregon Business Review, Vol. XXIII, No. 8 (August, 1964);and from Paul B. Simpson, Factors Which Determine Growth in the Pacific Northwest," Oregon Business Review, Vol. XXI, No. 11 (November, 1962).

FIGURE I

PERCENT CHANGE IN EMPLOYMENT
[in the United States]
ESTIMATED FOR THE DECADE 1960-1970[1]



Employment Opportunities will be Greatest in Occupations Requiring the Most Education and Training

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[1] Adapted from: U. S. Department of Labor, Manpower: Challenge of the 1960's. Taken from Norman C. Harris, *loc. cit.*, p. 32.

2. The growth in employment in Oregon, which has experienced an almost uninterrupted upward trend since World War II, is projected to continue that upward trend at least to 1975, though at a slightly lower growth rate than prevailed during the period 1947-1962.

3. Agriculture, which for many years was the largest employer and is now the second largest employer in Oregon, will continue its decline, both in terms of the number employed and the proportion of Oregon's total employment which it represents. This projection does not include reference to agriculture-related business.

4. The numbers employed in manufacturing in Oregon will increase slightly up to 1975, but will decline as a proportion of the total employment in Oregon.

    a. Lumber and wood products, the largest employment category in Oregon manufacturing, will experience a decline in the period to 1975, both in terms of the number of persons employed and in the proportion that it represents of the total employment in Oregon.

    b. Food and kindred products, the second largest category in Oregon manufacturing, is predicted to follow the general trend in manufacturing as a whole in Oregon between 1964 and 1975; namely, a slight increase in numbers employed but a reduction in the proportion it represents of the total employment.

    c. "The ultimate aim of the region [Pacific Northwest] to keep itself prosperous must be to develop the brain-oriented industries - chemicals, electric machinery, instruments - and also resource-oriented industries."[1]

5. The most significant growth in terms of numbers of employees is predicted for those categories of employment involving services in which there is at one and the same time: (a) a wide demand growing out of an increasing affluence and (b) a reasonable expectation that technological advancements will not proceed faster than the demands for service (finance, insurance, real estate; services such as legal and medical services, hotels, lodgings, entertainment, etc.; government - local, state, and federal - including education, highways, etc.).

Economic Growth

One of the most conspicuous of the major goals of the nation is rapid economic growth. This goal is closely related to the nation's commitment to a full-employment policy. Acceleration of the nation's economic growth is at once both necessary to full employment and dependent upon investment in human capital, through various forms of education, and technology.

Two quotations highlight the place of human capital in the attainment of this national goal. The first is from the presidential address of a distinguished economist, Theodore W. Schultz, at the seventy-third annual meeting of the American Economic Association, in 1960:

> Although it is obvious that people acquire useful skills and knowledge, it is not obvious that these skills and knowledge are a form of capital, that this capital is in substantial part a product of deliberate investment, that it has grown in Western societies at a much faster rate than conventional (nonhuman) capital, and that its growth may well be the most distinctive feature of the economic system. It has been widely observed that increases in national output have been large compared with the increases of land, man-hours, and physical reproducible capital. Investment

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[1] Paul B. Simpson, loc. cit., p. 4.

> in human capital is probably the major explanation for this difference. /Emphasis added./
>
> . . . I shall contend that such investment in human capital accounts for most of the impressive rise in the real earnings per worker.
>
> . . . .
>
> Truly, the most distinctive feature of our economic system is the growth in human capital. Without it there would be only hard, manual work and poverty except for those who have income from property. There is an early morning scene in Faulkner's Intruder in the Dust, of a poor, solitary cultivator at work in the field. Let me paraphrase that line, "The man without skills and knowledge leaning terrifically against nothing."[1]

The second is from President Johnson's economic report to the 1965 Congress:

> The education of our people is the most basic resource of our society. Education equips man to think rationally and creatively in his quest for knowledge, for beauty, and for the full life; it provides the basis for effective political democracy; and it is the most important force behind economic growth by advancing technology and raising the productivity of workers.
>
> . . . .
>
> The impact of education on economic productivity, though long recognized, has recently come to be more widely appreciated. Expenditures on education produce a wide and important array of direct and indirect economic benefits to individuals and to society.
>
> Evidence on the effects of education on productivity is mounting. Increases in conventional inputs of labor and capital explain only about half the growth of output in the economy over the past half-century. The rising level of education appears to account for between one-quarter and one-half of the otherwise unexplained growth of output.
>
> . . . .
>
> Other effects defy both easy cataloging and quantification. They include the impact of education on research and the development of new products and processes, and the economic efficiencies that result from general literacy and substantial educational attainment.[2]

Acceptance of the foregoing view has led to federal support of expanded fellowships and scholarships in higher education; loans and grants for construction of expanded college and university buildings, especially in science and engineering and medicine; improvement in educational quality through research and teacher education; measures to strengthen elementary and secondary, vocational, and continuing adult education; in short, to a very great expansion of federal support of education at all levels.

The pursuit of the aforementioned national economic goal (rapid economic expansion) need not be antagonistic to the pursuit of political, social, or cultural goals. Indeed, the achievement of the economic goal may be crucial to the achievement of these other goals, such, for example, as the enhancement of the freedom, dignity, and worth of man.

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[1] Theodore W. Schultz, "Investment in Human Capital," American Economic Review, Vol. LI (March, 1961), pp. 1, 16.

[2] U. S., President, 1963 - (Johnson), Economic Report of the President, Transmitted to The Congress January 1965 (Washington, D. C.: U. S. Government Printing Office, 1965), pp. 156-57.

The point should be made unambiguously: If Oregon would participate fully in contributing to this accelerating economic growth and in sharing in the benefits therefrom, it must look to education in all forms and at all levels.

Mounting Aspirations of Our People

There is an increasing awareness on the part of parents and young people, and society in general, that education, as never before in history, is essential to individual and social self-fulfillment in the broadest sense. Parents seem increasingly to see education as the one enduring legacy that they can provide their children in an uncertain world. And, though the legacy deteriorates unless continually renewed, it has within itself the seeds of its own continuing regeneration. For there is evidence that "the more education people have had the more likely they are to make the effort to get whatever special training they may later find useful."[1]

Thus, in the United States, high school graduation, it is reported by the Educational Policies Commission,[2] has been rising at an average rate of about 1.5 percent per year and is presently about 65 percent of the eligible age group. And the percentage of high school graduates going on for degrees in higher education has been rising at about the rate of one percent per year, until by the fall of 1963 new admissions for degree credit were approximately 58 percent of the number of high school graduates of the preceding spring.

Observing this trend, Sidney Tickton of the Fund for the Advancement of Education, stated recently that "conservative extrapolation of past trends leads to the conclusion that the percentage of college-age people actually in college can be expected to grow from 24 percent today to 40 percent in 1985 . . ."[3]

A significant factor in the rising demands for educational opportunities is the fact that our people are alive, as never before, to the problems of the disadvantaged. They look to the schools and colleges, working together, to open avenues through which the disadvantaged may, through education and training, overcome some of the principal barriers to a fuller sharing by the disadvantaged in the opportunities of citizenship and a productive life.

There is a rising level of educational expectations among our people. These expectations, and the needs and aspirations which foster them, indicate clearly the direction we must move in providing post-high school educational opportunities. We turn, then, in Chapter II, to a consideration of the educational objectives to which we subscribe and to the premises which undergird them.

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[1] Organisation /sic/ for Economic Co-operation and Development, Higher Education and The Demand for Scientific Manpower in the United States (OECD-Reviews of National Policies for Science and Education; Paris: Organisation /sic/ for Economic Co-operation and Development, November, 1963), p. 82.

[2] The Educational Policies Commission, Universal Opportunity for Education Beyond the High School (Washington, D. C.: National Education Association of the United States and the American Association of School Administrators, 1964), p. 31.

[3] Sidney Tickton, "A Third Force in College Enrollments," Saturday Review (March 21, 1964), p. 71.

CHAPTER II

Objectives of Post-High School Education in Oregon

The objectives of post-high school education in Oregon are based upon a number of premises, which have underlain the development of education in the United States generally. These premises are presented here as an introduction to a statement of the objectives.

Premises

1. Modern society's goals - whether economic, social, or political - can be achieved only through the development of human resources. A state unwilling or incapable of developing its human resources is capable of developing little else.

2. The highest good of a democratic society is most effectively fostered when there is available to its citizens the fullest opportunity for self-fulfillment, tempered by social needs.

   In the words of the Rockefeller Brothers Fund report, The Pursuit of Excellence:

   > A concern for the realization of individual personalities is deeply rooted in our moral heritage, our political philosophy, and the texture of our daily customs . . . .
   >
   > Our devotion to a free society can only be understood in terms of these values. It is the only form of society that puts at the very top of its agenda the opportunity of the individual to develop his potentialities. It is the declared enemy of every condition that stunts the intellectual, moral, and spiritual growth of the individual. No society has ever fully succeeded in living up to the stern ideals that a free people set themselves. But only a free society can even address itself to that demanding task.[1]

3. Human resources not developed represent a social loss. Denied opportunity to develop his resources - physical, mental, and spiritual - the individual may become a burden to society, a truth to which many residents of our detention homes, prisons, and state hospitals can testify.

4. No other social endeavor is, therefore, more important to the achievement of the social good, or more productive, than education.

5. The increasing complexity of society requires human talents of a wide variety and achievement at many levels. Hence, the needs of society and the needs of individual self-fulfillment are both well served when a wide diversity of educational

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[1] Rockefeller Brothers Fund Special Studies Project, The Pursuit of Excellence - Education and the Future of America (America at Mid-Century Series: Special Studies Project Report V - Rockefeller Brothers Fund Incorporated; Garden City, N. Y.: Doubleday and Company Incorporated, 1958), p. 1.

opportunities is made effectively available in a manner to encourage their widespread use.

6. The hand-minded should not be counted of less importance than the book-minded simply because they are hand-minded. Society has need for both - and an educational obligation to both.

7. If we open wide the doors of educational opportunity, we shall reap dividends from the most unlikely human sources.

8. In a society as diverse as ours, numerous agencies, some publicly supported, some privately supported, are necessary to the provision of the wide variety of post-high school educational opportunities our times demand. Cooperation among these agencies in planning for post-high school educational needs is both desirable and necessary.

9. Paraphrasing an ancient philosopher, what is valued in our society will be cultivated. If widespread educational opportunity, readily available, is seen to have central importance to the achievement of the good life in the fullest individual and social sense, the people will strive to provide in full measure the financial resources necessary to the enterprise.

Objectives

1. To provide post-high school educational opportunities for all who can profit therefrom. The proportion of our total population which can significantly benefit from education beyond the high school, and at what levels, will depend upon the range in the nature of the educational opportunities made available and the ingenuity of our educational institutions and agencies in challenging abilities at all levels. As the range of educational opportunity is extended, the proportion of the state's population which can benefit from post-high school education will increase.

   We accept, as an ideal toward which to work in a long-ranging future, the following statement from the Educational Policies Commission publication, Universal Opportunity for Education Beyond the High School.

   > A person cannot justly be excluded from further education unless his deficiencies are so severe that even the most flexible and dedicated institution could contribute little to his mental development . . . . In the future, the important question needs to be not "Who deserves not to be admitted?" but "Whom can the society, in conscience and self-interest, exclude?"[1]

   How rapidly we move toward achievement of this ideal in Oregon will, of course, depend upon our sense of commitment to this ideal and the vigor of our efforts. It will require support of a wide range of educational opportunities, both publicly and privately supported and situated with due regard to the location of the students to be served. These will include opportunities in four-year colleges and universities (public and independent), community colleges and junior colleges, technical institutes and vocational schools, proprietary schools, business and industrial programs, and programs sponsored by labor and by the armed forces and other similar agencies, including such opportunities as on-the-job training and apprenticeship training.

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[1] The Education Policies Commission, op. cit., p. 5.

2. To provide programs of general education at the post-high school level for the youth of Oregon and for adults as well, to the end that: (a) their lives may be enriched by an appreciation of the arts and sciences, (b) they may have a fuller knowledge of the impact of science, scientific methodology, and technology upon the world in which we live, (c) they may more effectively discharge their responsibilities as citizens of Oregon and the larger world, and (d) they may, from the strong base of general knowledge thus acquired, find the resources and incentives for learning new skills or for otherwise increasing their educational capital, as changing times will require, during the whole of their occupational lives. An important aim of education is the development of the individual in the liberal and humane tradition. It is this aim that general education serves. It provides an understanding of the wider culture to which all men are heirs. It makes of man a more intelligent participant in the culture.

   It is probably true that there has never been a greater need for sound general education as a basis for intelligent citizenship. For the task of the ordinary citizen who wishes intelligently to discharge his responsibilities as a citizen at home and in the larger world community of which he is part has been increased enormously by the complexities of social, economic, political, and technical changes.

   Moreover, in a society increasingly influenced, as is ours, by an accelerating technology, characterized by rapid obsolescence of specific skills, general knowledge and understanding provide the individual with the means for dealing with the complexities of his occupational life. In such general knowledge he finds the resources and the incentive for learning such new skills, or for increasing his educational capital throughout his occupational life, as will enable him to adjust to changing demands of the occupational world in which he moves.

3. To provide youth of post-high school age with opportunity for educational preparation that will offer them meaningful entry into the world of work, leading to economic self-sufficiency. Except in those rare instances in which economic self-sufficiency is otherwise assured, gainful employment at a level reasonably commensurate with the individual's potentialities is essential both to the individual's contentment and the social and economic progress of the state. We believe strongly that society's best interests demand that educational preparation leading to appropriate employment in the wide-ranging occupational spectrum of our state and nation be readily available to the youth of Oregon. The achievement of this objective requires the provision of:

   a. Sub-baccalaureate programs providing short term specialized occupational preparation - including college level preparation for entry into semi-professional, technical, or vocational job opportunities. For a substantial number of Oregon youth, these shorter term, occupationally oriented programs are avenues to a successful career at an occupational level having a meaningful relationship to their capacities and interests. Denied such opportunities, these youth either drop out of school or remain in colleges in programs for which they have neither the capacities nor the interest, drifting aimlessly.

      Such programs fill not only an urgent educational need but an urgent social need as well, for the manpower demand for persons with this level of preparation is critical. The following observation in a report on technical education is expressive of the extent of manpower needs in the semi-professional and technical area.

      > The national need for semi-professional and technician manpower is critical. The National Science Foundation, in a 1961 study . . . concluded that by 1970 the national need for technicians in

> industry alone would exceed 1,262,000. This figure, contrasted with 630,000 employed in 1960, indicates that the supply must be doubled in the decade. Allowing for deaths and retirements as well as for new demands, almost 68,000 new technicians would have to be educated and trained each year to meet the 1970 estimated demand. It is doubtful that the current annual rate of production of technicians from all sources (junior colleges, technical institutes, industry training programs, and armed service schools) exceeds 35,000. Further, other sectors of the economy, such as government, education, and health fields employed another 240,000 technicians in 1960, and this figure will probably double by 1970 also. Most certainly there is a challenge here for the junior college.[1]

Vocational schools, technical schools and institutes such as Oregon Technical Institute, community colleges, four-year institutions, management, labor, and the armed forces - these all are the avenues by which these occupational programs will be made available.

b. Baccalaureate and graduate programs appropriate to the capacities and interests of persons desiring to develop specialized abilities and skills required in business, government, and the professions. There exists a seemingly insatiable demand for highly trained men and women in business, government, and the professions. As the Rockefeller Brothers Fund report (The Pursuit of Excellence) puts it, this demand results from "the constant pressure of an ever more complex society against the total creative capacity of its people."[2] Pointing out the temptation to view the need in terms of specific shortages in specific areas such as engineering, economics, etc., the Rockefeller report cautions that it is not possible to meet the needs for trained persons through crash programs designed to meet specific shortages. The "lead time" needed to train and develop talents is too long. "Rather, we must prepare ourselves for a constant and growing demand for talents of all varieties, and must attempt to meet the specific needs of the future by elevating the quality of talented individuals of all kinds."[3]

In the same vein Henry M. Wriston warns:

> The educative process should never be distorted by the nation's "need" for scientists, or engineers, or doctors, or any other specific profession or skill. Whenever counseling and curriculum stress vocation primarily they underestimate needs just as vital, though not statistically conspicuous. The nation needs philosophers, poets, artists, critics--and a thousand other sorts of people--in numbers which "manpower analyses" can never estimate.[4]

We subscribe to these views.

4. To promote and encourage the development of knowledge through research. The development of vigorous, well-supported research activities in Oregon,

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[1] Norman C. Harris, op.cit., p. 28.

[2] Rockefeller Brothers Fund Special Studies Project, op. cit., p. 10.

[3] Ibid., pp. 10-11.

[4] President's Commission on National Goals, Goals for Americans - Programs for Action in the Sixties (Washington, D. C.: The American Assembly, Columbia University, 1960), p. 56.

particularly in institutions with graduate programs, is critical to the health and vigor not alone of higher education in Oregon but of the general social and economic well-being of the state.

To undergraduate programs, research makes important contributions to quality. It is an attraction to able young professors who gravitate to those institutions where there is opportunity for research and/or association with mature, productive scholars. It attracts gifts and grants and leads to improved resources, notably library and research resources. It creates among undergraduates a taste for excellence.

In graduate programs research and instruction are inseparable. Two of the principal obligations of graduate education rest solidly upon a research foundation:

a. The extension of the bounds of knowledge through research.

b. The production of qualified researchers to meet the insatiable demands of higher education, government, and business and industry for such personnel.

As for the contribution of research to the economic and social well-being of Oregon, we concur with the statement of the State Board of Higher Education as follows:

> If Oregon would be a center of educational strength and technological power, we must be prepared to encourage institutions of higher learning in their work at the boundaries of knowledge. If those who are capable of advancing knowledge are supported only in their teaching and training of others, research will suffer. So, too, inevitably, will teaching and training, which make it possible to produce and retain men and women of advanced education, important to the new technology from which the wealth and power of the future are likely to flow.[2]

5. To make available, to individuals and groups in the state, the research and other resources of post-high school agencies of the state in the study and solution of problems affecting the well-being of the people of the state. The research accomplished in educational institutions has literally transformed the world. It is perhaps not too much to say that such institutions are created by society in the expectation that they will and should constitute a dynamic force for the creation of a better world. We view this responsibility of post-high school institutions as one of the most distinctive and most important of the reasons for their existence. Repositories and purveyors of existing knowledge in all forms, they must be useful instruments in the study and solution of the problems faced by our society.

6. To provide programs which permit and foster continuing, lifelong study. The great proliferation of knowledge, which promises to continue at an increasing rate, insures that he who would be informed, in whatever field, must consider learning a lifelong pursuit. This is as true of the citizen who would be knowledgeable of the social, political, or economic issues of the day as it is of the specialist - the skilled worker, technician, or professional person.

   The dislocation in employment patterns occasioned by technological change makes it imperative that opportunities be available to the worker for retraining and renewing of his educational and occupational capital. The manpower development

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[1] Oregon, State Board of Higher Education, Minutes of Meeting of January 27-28, 1964, #322 (Eugene: Board's Office, 1964), p. 52.

activities illustrate how, at one level, opportunities are opened to the disemployed who seek to re-equip themselves.

Provision must, therefore, be made for a wide variety of learning opportunities, at the post-high school level, for continuing education of all types - some occupationally oriented, some academically and degree-oriented, some for credit, others for non-credit.

7. To improve guidance and counseling services as an aid to youth and adults alike. The mounting complexities of life make it increasingly important that there be readily available, to youth and adults alike, guidance and counseling services to assist with the meeting of personal problems of wide variety, of which the selection of an occupation and the making of choices among alternative means of entry into an occupational field are but illustrative.

   As a preventive measure, guidance and counseling services will forestall many personal and occupational dislocations, costly both to the individuals involved and to society.

More than 80 years ago (1883), under the heading of "The Temper of the West," James Bryce, an Englishman, wrote of his impressions following a visit to the American West:

> . . . The confidence of these Westerns is superb. . . . Men seem to live in the future rather than in the present . . . they see the country not merely as it is, but as it will be twenty, fifty, a hundred years hence.[1]

It is with such confidence that we view the objectives of post-high school education in Oregon, confident that the people of Oregon will see what needs to be done and will do it, with a vision of the Oregon that will be - "twenty, fifty, a hundred years hence."

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[1] James Bryce, The American Commonwealth (2 vols.; New York: G. P. Putnam's Sons, 1959), Vol. II, pp. 581-82.

CHAPTER III

Selected Population Characteristics and Enrollment Trends

In this chapter will be presented relevant information concerning Oregon's population and enrollment trends in the colleges and universities of the state. Treated in this chapter are the following: (1) selected population characteristics, (2) trends in population growth in Oregon 1940 to 1980, (3) geographic distribution of Oregon's population, (4) selected educational data relating to educational achievement, persistence in the secondary schools, and trend in the number of high school graduates in Oregon, and (5) trends in enrollments in Oregon's public and independent colleges and universities.

Selected Population Characteristics

Distribution of Oregon's Population 1960 and 1980, by Age and Sex

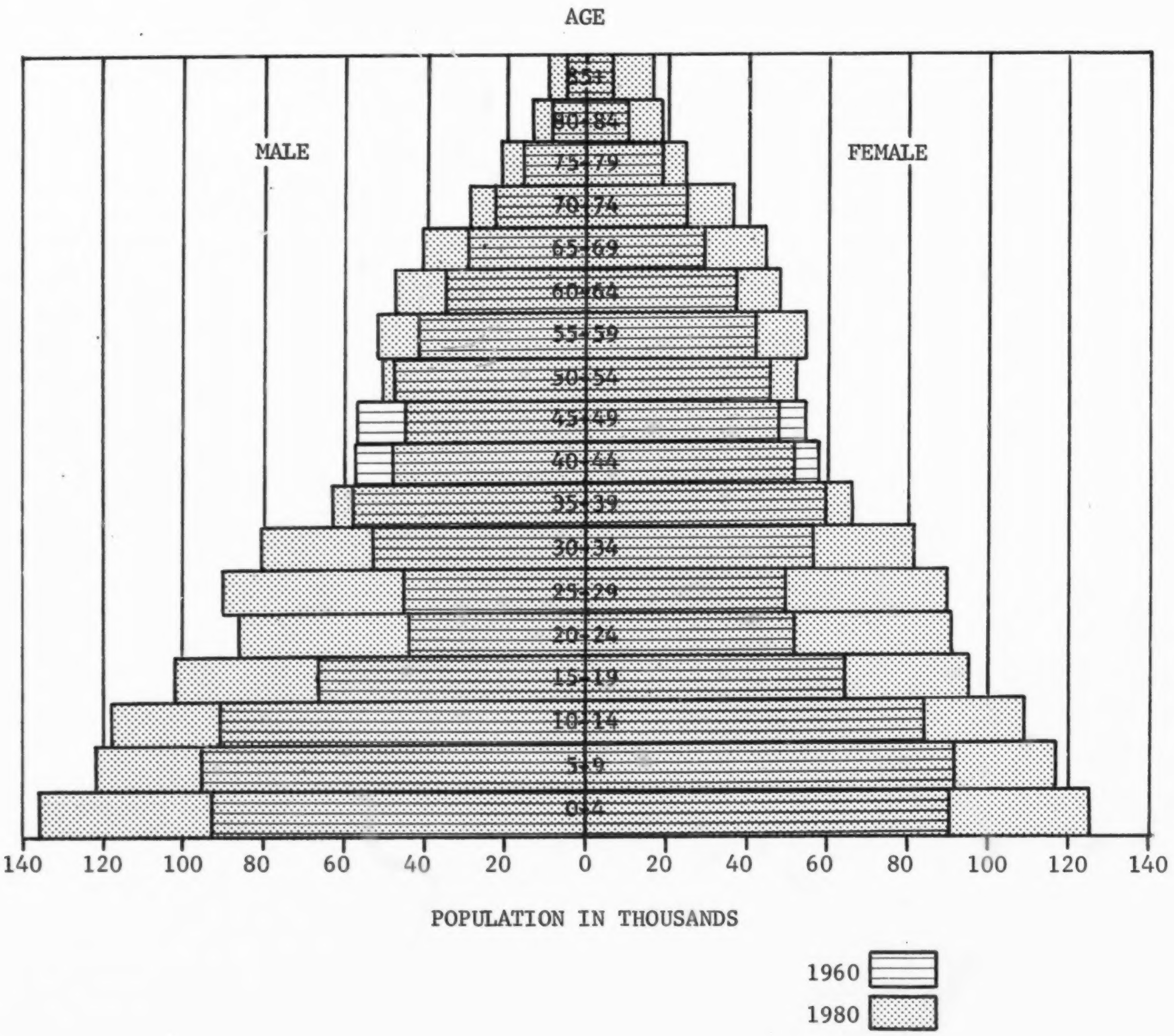
The population pyramid in Figure II (page 14) graphically describes the 1960 (actual) and 1980 (estimated) population of Oregon by age and sex. The inner pyramid in Figure II pictorializes the census data collected in 1960. At this writing, each of these age groups has advanced six years. A mortality adjustment in each age group and an adjustment for net-migration would show Oregon's population in 1966.

Of Figure II, the Oregon Board of Census said, in 1965, in a report written for the post-high school study committee:

> The effect of the lower birth rates in the 1925-45 era is shown by the construction in the four age groups 15-19, 20-24, 25-29, and 30-34. The highest birth rates in the post-war baby boom began in 1946-47. Children born during 1946 would now be 19 years old, and they would have been part of the 10-14 year olds in 1960. National estimates of teen-age population 13-19 estimate this seven-year group at 12.5 percent of the total population. Oregon, in general, follows this pattern. Therefore, within the next six years, this increased portion of the population will be in the process of family formation and/or in college, or entering the labor force. Population in 1980 is shown by the length of the dotted bar for each age group. The constricted population from the 1930-1940 lower birth rate era will be 40 through 49 in 1980. As the pyramid shows, in 1980 each age group below 40 will be larger than at present. This is especially true for the age groups between 15 and 35. /It should also be observed that in 1980 the population in the 40-44 and 45-49 categories will actually be smaller than the same groups in 1960./ The projections include the expected number of children that will be born to those born in the high-birth post-World War II years. Net migration estimates are not included in the population pyramid. For the past several years, we have observed a small net in-migration. This is expected to continue. At present, we do not have information

FIGURE II

POPULATION OF OREGON: 1960 AND 1980
ZERO NET INTERSTATE MIGRATION PROJECTIONS, BY AGE AND SEX



Source: Oregon State Board of Census, Population Bulletin (Portland, Oregon: Portland State College, October, 1963), p. 9.

concerning migration by age and sex. Estimates of migration have been made only for the total population.[1]

Table 2 (page 17) shows forecasts of population by age and sex from 1960 to 1980 in five-year intervals. It is predicted that the male population will, over the period to 1980, generally be larger than the female population for ages below 15 and that the female population will, in nearly all of the age groups above 15, generally be slightly larger than the male population over the same period. This reflects the excess of male over female births, and the higher mortality of males at all ages.

Trend in Population Growth in Oregon, 1940 to 1980

Although through most of the past century Oregon has grown at a faster rate than the nation, Oregon's rate of growth during the period 1960 to 1980 is expected to be slightly below the national average (Table 1, below).

TABLE 1

POPULATION GROWTH IN OREGON AND THE UNITED STATES ACTUAL AND PROJECTED FOR SELECTED YEARS 1950 - 1980

Year 1	Oregon (in thousands) 2	Percent Gain 3	United States (in thousands) 4	Percent Gain 5
1950	1,516[a]		150,216[c]	
1960	1,769[a]	16.7	178,467[c]	18.8
1965	1,904[b]	7.6	193,818[d]	8.6
1970	2,059[b]	8.1	208,249[d]	7.4
1975	2,193[b]	6.5	225,123[d]	8.1
1980	2,343[b]	6.8	244,566[d]	8.6
1960-1980 Total Projected Gain	574	32.4	66,099	37.0

[a] U.S., Department of Commerce, Bureau of the Census, Census of Population: 1960 ("Characteristics of the Population," Part 39, "Oregon"), Vol. I, p. 173.

[b] Oregon, State Board of Census, Population and Labor Force by Age and Sex (April, 1964).

[c] U.S., Department of Commerce, Bureau of the Census, op.cit. (Final Report PC (1) - LC - Detailed Characteristics - United States Summary), p. 358.

[d] U.S., Department of Commerce, Bureau of the Census, "Current Population Reports," Population Estimates (February 7, 1966), Series P-25, No. 326, p. 14, Series I-B Population Estimates.

During the 1940-1950 decade, Oregon's population increased rather spectacularly (40 percent), then the rate of increase fell off during the decade 1950-1960 to just over 16 percent, just slightly less than the nation's rate of growth (18.8 percent).

The projected population gain 1960 to 1980 is estimated at 32.4 percent for Oregon, compared with an estimated gain for the nation of 37.0 percent.

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[1] Oregon State Board of Census report written for the post-high school study, dated April 7, 1965.

Geographic Distribution of Oregon's Population

1. Oregon's population is concentrated in the western one-third of the state.

   Approximately 86 percent of Oregon's population (1965) resides in that tier of counties extending from the Columbia River on the north to the California border on the south, and from the Pacific Ocean on the west to the eastern boundaries of Jackson, Douglas, Lane, Linn, Marion, Clackamas, and Hood River counties on the east. It is estimated that by 1975, in excess of 87 percent of the state's population will be concentrated in this area (Table 3, page 18).

   Figure III (page 19) gives a graphic representation of population density by county, in 1960. Figure IV (page 20) shows the rate of expected population growth to 1970, by area.

2. Within the western one-third of Oregon, the population is further concentrated in the counties having sizable urban areas.

   Contained in this section of the state are the Portland metropolitan area (approximately 42 percent of the state's population (1965) resides here), the counties of Marion (Salem), Benton (Corvallis), Linn (Albany), Lane (Eugene-Springfield), Douglas (Roseburg), Josephine (Grants Pass), Jackson (Medford-Ashland), and Coos (Coos Bay-North Bend).

3. In the eastern two-thirds of the state reside approximately 14 percent of the state's residents.

   Principal concentrations of population in this section are found in the counties of Klamath (Klamath Falls), Umatilla (Pendleton), Deschutes (Bend), Malheur (Ontario), Wasco (The Dalles), Union (La Grande), and Baker (Baker).

Geographic Distribution of Population 18-24

4. In 1965, approximately 87 percent of the population aged 18-24 lived in the western one-third of the state, and it is estimated that by 1975 this percentage will reach 88.

Selected Educational Data -
Persistence in School

Median School Years Completed

1. The "median school years completed" continues to increase in Oregon as it does nationally.

   The decennial census reveals that the median school years completed in Oregon increased from 9.1 in 1940 to 10.9 in 1950, and to 11.8 in 1960. Oregon's median school years completed is slightly higher than that for the nation (10.6), but below that for its neighbors on the coast, California (12.1) and Washington (12.1).

   In Oregon the increase from 1950 to 1960 in median school years completed has been greater in the rural regions (9.9 years, 1950 - 10.9 years, 1960) than in the urban regions (11.7 years, 1950 - 12.1 years, 1960).

TABLE 2

POPULATION, STATE OF OREGON, BY AGE GROUP, APRIL 1, 1960
FORECAST APRIL 1, 1965-1970; ESTIMATED APRIL 1, 1975-1980

Age Group	1960		1965		1970		1975		1980		High Estimate 1980	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13
All Ages	879,951	888,736	943,041	960,630	1,017,468	1,041,354	1,082,826	1,110,251	1,157,276	1,185,576	1,190,791	1,219,905
0-4	94,241	91,213	101,604	96,523	113,065	107,465	122,493	115,959	133,212	125,734	138,273	131,158
5-9	96,046	92,179	96,232	93,583	103,645	98,866	112,973	108,031	122,573	117,119	126,327	120,449
10-14	87,149	84,461	98,381	93,894	98,546	95,315	104,842	99,361	114,674	108,805	116,852	111,036
15-19	63,904	66,227	82,757	84,268	94,044	93,934	93,003	93,461	99,175	96,915	101,186	99,833
20-24	46,203	50,249	59,304	64,306	78,796	82,940	86,177	88,630	83,096	86,277	88,559	92,079
25-29	46,587	49,059	51,594	51,465	64,797	65,395	81,766	82,168	89,302	88,529	93,458	91,996
30-34	52,849	55,083	47,841	50,208	52,902	52,623	64,438	65,274	81,599	82,305	84,481	84,571
35-39	57,624	60,903	52,891	55,124	48,040	50,414	51,845	51,574	63,419	64,032	65,597	66,126
40-44	58,012	58,871	57,861	61,712	53,343	56,072	47,602	50,414	51,417	51,561	53,160	53,278
45-49	57,867	56,360	57,806	58,673	57,826	61,569	52,751	55,298	47,229	49,797	48,570	51,102
50-54	50,831	48,770	56,007	55,875	56,087	58,053	55,872	60,375	51,261	54,269	52,032	55,299
55-59	43,375	42,067	48,076	47,511	53,174	54,547	53,106	56,342	53,073	58,701	53,643	59,456
60-64	37,330	37,574	39,673	40,473	44,276	45,845	48,891	52,270	49,119	54,074	49,555	54,726
65-69	33,125	33,869	32,420	35,019	34,686	37,887	38,693	42,710	43,089	48,857	43,491	49,406
70-74	25,905	27,657	26,877	29,857	26,624	31,112	28,568	33,628	32,163	38,240	32,498	38,618
75-79	16,631	18,239	18,820	22,464	19,831	24,513	19,869	25,682	21,697	27,979	21,797	28,219
80-84	8,121	10,044	9,925	12,311	11,484	15,474	12,250	17,025	12,465	18,122	12,565	18,259
85 +	4,151	5,911	4,972	7,364	6,302	9,330	7,687	12,049	8,713	14,260	8,747	14,294

Source: Oregon State Board of Census

TABLE 3

POPULATION OF COUNTIES AND STATE ECONOMIC AREAS OF OREGON APRIL 1, 1960, AND FORECAST APRIL 1, 1965 to 1985[1]

Area 1	1960 2	1965 3	1970 4	1975 5	1980 6	1985 7
State	1,768,687	1,903,671	2,058,822	2,193,077	2,342,852	2,476,878
Area A	728,088	799,230	876,541	937,912	1,006,968	1,070,249
Clackamas	113,038	128,197	143,227	154,099	164,740	175,093
Multnomah	522,813	559,301	600,168	630,558	666,714	708,612
Washington	92,237	111,732	133,146	153,255	175,514	186,544
Area B	162,890	183,806	207,121	227,992	249,956	270,290
Lane	162,890	183,806	207,121	227,992	249,956	270,290
Area 1a	93,349	95,048	99,123	103,467	108,760	114,003
Clatsop	27,380	25,511	25,177	24,801	24,471	25,651
Columbia	22,379	22,878	23,492	24,046	24,776	25,970
Lincoln	24,635	27,355	30,599	34,206	38,479	40,334
Tillamook	18,955	19,304	19,855	20,414	21,034	22,048
Area 1b	241,275	256,825	274,499	291,120	309,780	324,585
Coos	54,955	58,300	61,186	66,200	71,962	75,401
Curry	13,983	19,236	26,709	28,268	29,832	31,258
Douglas	68,458	71,243	74,444	79,010	84,198	88,222
Jackson	73,962	78,229	82,569	88,064	94,111	98,609
Josephine	29,917	29,817	29,591	29,578	29,677	31,095
Area 2	291,316	309,513	332,789	356,482	381,783	403,662
Benton	39,165	44,322	50,351	56,467	63,261	66,887
Hood River	13,395	13,526	13,678	13,796	13,859	14,653
Linn	58,867	60,510	62,830	65,022	67,117	70,964
Marion	120,888	132,317	146,627	162,057	178,904	189,156
Polk	26,523	26,989	27,788	28,304	28,672	30,315
Yamhill	32,478	31,849	31,515	30,836	29,970	31,687
Area 3	74,943	77,476	80,991	83,008	85,610	87,580
Gilliam	3,069	2,998	2,908	2,764	2,662	2,724
Morrow	4,871	4,811	4,778	4,624	4,503	4,607
Sherman	2,446	2,518	2,624	2,681	2,740	2,802
Umatilla	44,352	44,611	45,201	44,766	44,423	45,445
Wasco	20,205	22,538	25,480	28,173	31,282	32,002
Area 4	176,826	181,773	187,758	193,096	199,995	206,509
Baker	17,295	18,068	18,907	19,715	20,799	21,477
Crook	9,430	9,580	9,726	9,848	9,960	10,284
Deschutes	23,100	23,867	24,728	25,508	26,459	27,321
Grant	7,726	7,307	6,947	6,527	6,180	6,381
Harney	6,744	6,944	7,172	7,396	7,700	7,951
Jefferson	7,130	7,944	8,881	9,906	11,140	11,503
Klamath	47,475	50,042	53,004	55,708	58,759	60,672
Lake	7,158	7,471	7,830	8,187	8,640	8,921
Malheur	22,764	22,285	21,855	21,318	20,899	21,580
Union	18,180	18,777	19,527	20,159	20,879	21,560
Wallowa	7,102	6,998	6,928	6,797	6,740	6,959
Wheeler	2,722	2,490	2,253	2,027	1,840	1,900

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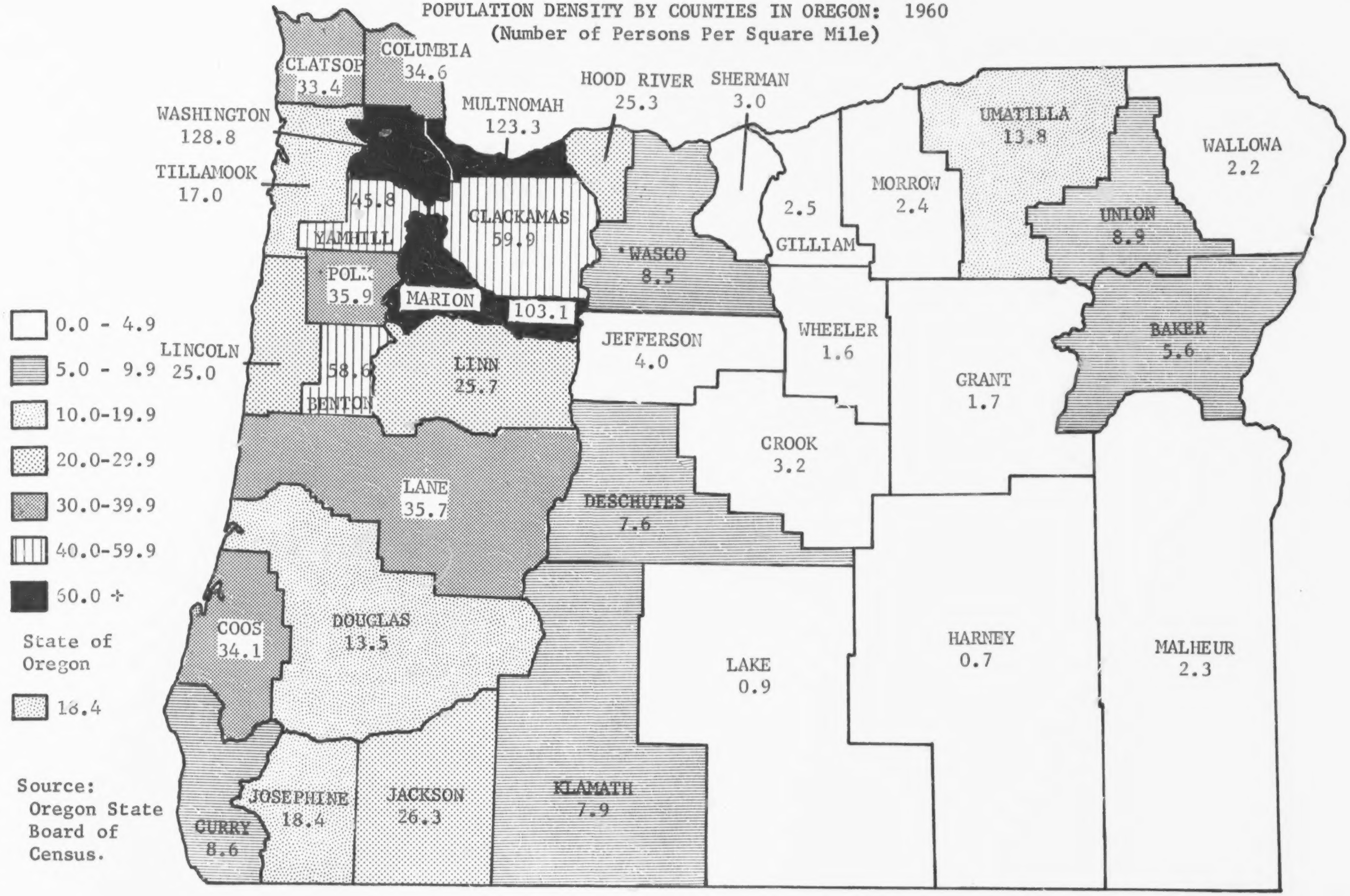
[1] These forecasts were prepared by the Oregon State Board of Census using Population Bulletin P-10 as the base and adjusting county estimates prepared for Bulletin P-9. Errors of estimates for county totals would be expected to be significantly larger than errors of estimates for economic area totals.

FIGURE III

POPULATION DENSITY BY COUNTIES IN OREGON: 1960
(Number of Persons Per Square Mile)

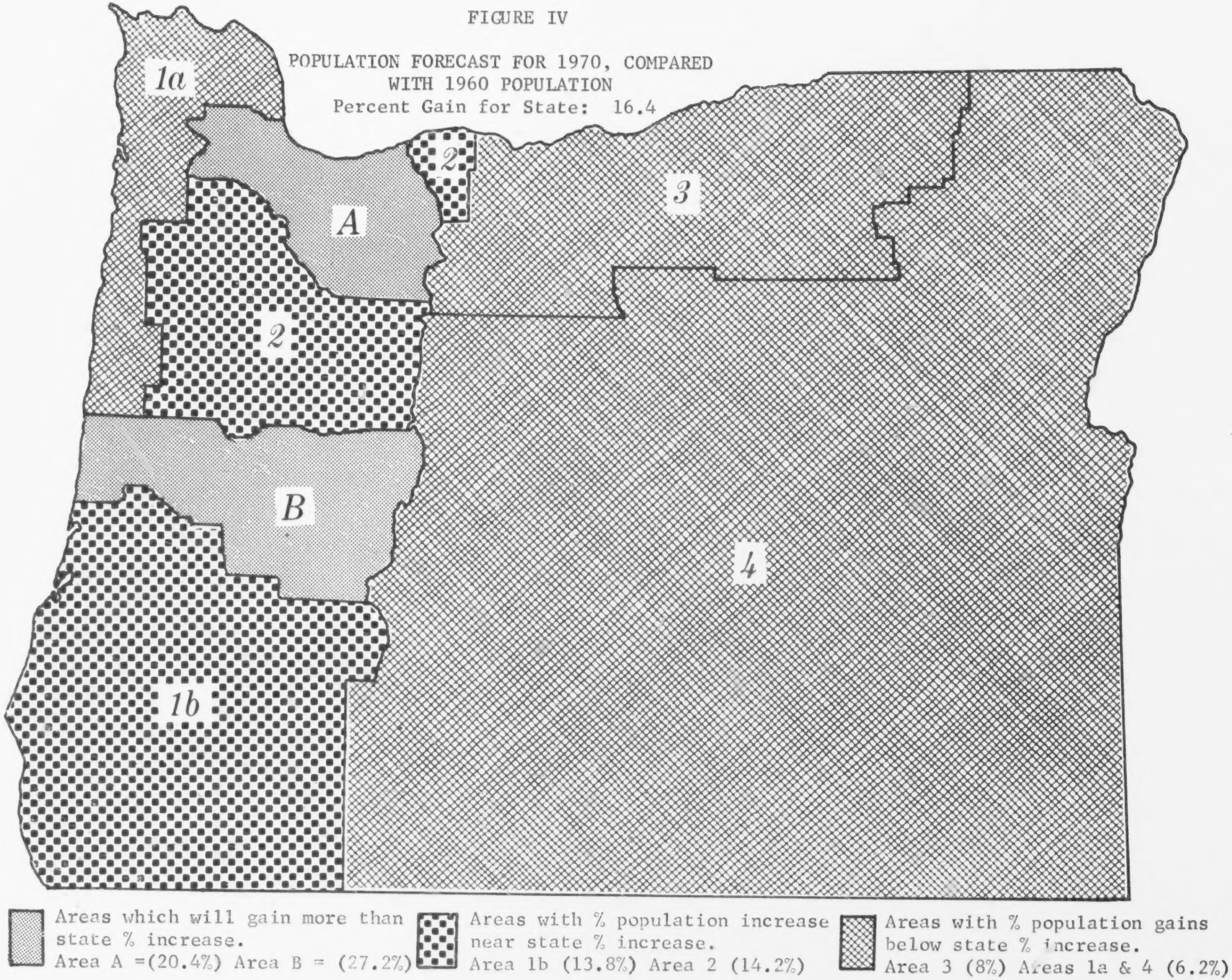

CLATSOP 33.4
COLUMBIA 34.6
WASHINGTON 128.8
TILLAMOOK 17.0
MULTNOMAH 123.3
HOOD RIVER 25.3
SHERMAN 3.0
GILLIAM 2.5
MORROW 2.4
UMATILLA 13.8
UNION 8.9
WALLOWA 2.2
YAMHILL 45.8
CLACKAMAS 59.9
WASCO 8.5
POLK 35.9
MARION 103.1
LINCOLN 25.0
BENTON 58.6
LINN 25.7
JEFFERSON 4.0
WHEELER 1.6
GRANT 1.7
BAKER 5.6
CROOK 3.2
LANE 35.7
DESCHUTES 7.6
COOS 34.1
DOUGLAS 13.5
LAKE 0.9
HARNEY 0.7
MALHEUR 2.3
CURRY 8.6
JOSEPHINE 18.4
JACKSON 26.3
KLAMATH 7.9
0.0 - 4.9
5.0 - 9.9
10.0-19.9
20.0-29.9
30.0-39.9
40.0-59.9
60.0 +
State of Oregon
18.4

Source:
Oregon State
Board of
Census.

FIGURE IV

POPULATION FORECAST FOR 1970, COMPARED WITH 1960 POPULATION

Percent Gain for State: 16.4



Areas which will gain more than state % increase.
Area A =(20.4%) Area B = (27.2%)

Areas with % population increase near state % increase.
Area 1b (13.8%) Area 2 (14.2%)

Areas with % population gains below state % increase.
Area 3 (8%) Areas 1a & 4 (6.2%)

Source:
Oregon
State
Board of
Census.

Percentage of Ninth Grade Class Graduated from High School

2. An increasing percentage of students entering the ninth grade in Oregon are graduating from high school (Table 4, below).

The increase has been from 63.8 percent in 1952 to 82.6 percent in 1965. These percentages were compiled by the State Department of Education, Special Services Division.[1] In each of the years 1948 to 1961, the number of students was counted and compared to the number of students graduated four years later. This treatment does not take into consideration the number of students who transfer into the state. Hence, these figures should be considered as no more than a partial indicator of what has been occurring with respect to the number of school drop-outs.

TABLE 4

PERCENT OF NINTH GRADE CLASS WHICH GRADUATED FROM HIGH SCHOOL

Class 1	Graduated 2	Class 3	Graduated 4	Class 5	Graduated 6
1952	63.8%	1957	69.9%	1962	77.5%
1953	66.0	1958	71.2	1963	78.2
1954	66.4	1959	71.7	1964	80.8
1955	67.9	1960	73.2	1965	82.6
1956	69.6	1961	76.0		

Percent High School Drop-Outs by Grade and Year

3. Students entering the ninth grade who drop out of school before graduating are staying longer in school than formerly.

This is evident from the data presented in Table 5 (page 22) which reveal that in 1952 the percentage of the class dropping out of school was for the grades 9, 10, 11, and 12, respectively, 7.7 percent, 9.4 percent, 12.4 percent, and 6.7 percent.[2]

In 1965, the percentage of the class dropping out of school was for grades 9, 10, 11, and 12, respectively, 0.6 percent, 2.3 percent, 6.6 percent, and 7.9 percent.

4. The largest percentage of high school drop-outs among students who get as far as the ninth grade is now in the twelfth grade.

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[1] "State-Wide Enrollment Data - A Measure of Holding Power," Oregon Guidance Service, Vol. XXI, No. 1, October, 1965, p. 15.

[2] Ibid.

TABLE 5

PERCENT OF HIGH SCHOOL DROP-OUTS IN OREGON BY GRADE AND BY YEAR

Class of 1	Ninth % Lost 2	Tenth % Lost 3	Eleventh % Lost 4	Twelfth % Lost 5
1952	7.7%	9.4%	12.4%	6.7%
1953	6.0	10.2	11.8	6.0
1954	6.8	10.4	9.8	6.7
1955	7.7	8.0	9.9	6.5
1956	4.9	8.4	10.2	6.9
1957	4.9	7.7	10.8	6.7
1958	4.1	7.3	9.6	7.8
1959	3.9	7.4	8.7	8.2
1960	4.0	5.7	9.3	7.8
1961	3.1	5.2	8.1	7.6
1962	2.5	5.3	7.5	7.2
1963	2.1	4.5	6.8	8.4
1964	1.9	3.3	5.6	8.4
1965	0.6	2.3	6.6	7.9

Trend in Numbers of High School Graduates

One of the most significant factors in estimating the need for post-high school facilities and programs is the trend in the number of graduates from Oregon high schools (Table 6, p. 23). Some significant facts emerge from an examination of this trend for the years 1956-57 to 1974-75.

5. The largest annual increase (actual or estimated) in high school graduates occurs in 1963-64 and 1964-65 (16.5 and 21.9 percent, respectively).

6. Following the big increase in high school graduates in 1964-65, it is estimated that there will be a leveling off in the number of graduates, with an actual drop in graduates in 1965-66 (-3.7%) and 1971-72 (-0.5%), and only moderate increases in other years from 1966-67 to 1974-75.

The trend in high school graduates can be dramatized by observing that in the eight years from 1956-57 to 1964-65 (a peak year) the number of high school graduates increased from 16,910 to 31,732, an increase of 87.7 percent. In the next nine years (1964-65 to 1973-74) high school graduates are expected to increase from 31,732 to 36,840, or only 16.1 percent. And the following year (1974-75) the number is expected to increase only slightly to 37,548.

The decline in the rate of increase in high school graduates should not be misunderstood by the reader to presage a corresponding decrease in the rate of increase in the post-high school institutions of Oregon. A number of factors is likely to affect post-high school enrollments that are not reflected in the number of high school graduates: (1) The increasing proportion of high school graduates going on to post-high school education. A study of a random sample of 10 percent of each of the high school graduating classes in Oregon from 1961 to 1965 (Table 34, Chapter V) reveals that in the fall term following graduation, 39.8 percent of the sample were in Oregon colleges in 1961 compared with 47.8 percent in 1965. Five and one-half (5.5) percent were enrolled in vocational schools in 1961 compared with 6.9 percent in 1965. (2) The increased retention of students in our colleges. (3) The increasing numbers of graduate students enrolling in Oregon institutions. (4) The increasing numbers of adults who are enrolling as additional kinds of opportunities are made available in the community colleges.

TABLE 6

NUMBER OF GRADUATES
OREGON PUBLIC AND PRIVATE HIGH SCHOOLS[1]
(Actual 1956-57 - 1964-65; estimates 1965-66 - 1974-75)

School Year	Public High School Graduates	Private High School Graduates	Total Oregon High School Graduates	Percentage Change from Previous Year
1	2	3	4	5
1956-57	15,853	1,057(estimate)	16,910(estimate)	---
1957-58	16,645	1,110(estimate)	17,755(estimate)	5.0
1958-59	17,144	1,146	18,290	3.0
1959-60	19,791	1,316	21,107	15.4
1960-61	21,261	1,491	22,752	7.8
1961-62	20,750	1,565	22,315	-1.9
1962-63	20,800	1,562	22,362	0.2
1963-64	24,463	1,578	26,041	16.5
1964-65	29,988	1,744	31,732	21.9
1965-66	28,791	1,765	30,556	-3.7
1966-67	29,111	1,776	30,887	1.1
1967-68	29,405	1,764	31,169	0.9
1968-69	30,688	1,810	32,498	4.3
1969-70	32,821	1,904	34,725	6.9
1970-71	33,813	1,927	35,740	2.9
1971-72	33,684	1,886	35,570	-0.5
1972-73	34,298	1,886	36,184	1.7
1973-74	34,953	1,887	36,840	1.8
1974-75	35,658	1,890	37,548	1.9

[1] Based on data (1956-57 to 1964-65) and estimates (1965-66 to 1974-75) supplied by the Oregon State Department of Education.

Projections of Enrollments in Oregon in the Oregon State System of Higher Education, Public Community Colleges, and the Independent Colleges and Universities

Enrollments and tentative projections of enrollments for the years 1956-57 to 1974-75 are presented in Table 7 (p. 24) for the following major categories of educational agencies in Oregon: (1) Oregon State System of Higher Education, (2) Oregon public community colleges, and (3) independent colleges and universities of Oregon. (Figure V, p. 25, presents the same information graphically.)

Originally issued in 1964 and revised in 1966, these statistics grew out of a joint study by the Oregon State Department of Education and the Oregon State System of Higher Education with the cooperation of the independent colleges and universities. They constitute a part of the overall study of post-high school education undertaken jointly by the foregoing two public bodies. Table 7 differs from the joint enrollment projection issued by the state departments of education and higher education June 1966 in that Table 7 incorporates August 1966 revisions of independent college and university figures.

TABLE 7

FULL-TIME-EQUIVALENT AVERAGE TERM ENROLLMENTS IN OREGON COLLEGES AND UNIVERSITIES - 1956-57 to 1974-75

Academic Year	Estimated Oregon 18-24 College-Age Population	Enrollments in Oregon Colleges					Percent Enrollment is of Oregon 18-24 College-Age Population[3]				
		Oregon Public Colleges			Independent Colleges	Totals for Oregon	Oregon Public Colleges			Independent Colleges	Totals for Oregon
		OSSHE[1]	Community Colleges[2]	Totals			OSSHE	Community Colleges	Totals		
1	2	3	4	5	6	7	8	9	10	11	12
1956-57	136,378	17,906	166	18,072	6,676	24,748	13.13%	.12%	13.25%	4.90%	18.15%
1957-58	136,476	19,498	158	19,656	7,028	26,684	14.29	.11	14.40	5.15	19.55
1958-59	136,623	20,375	230	20,605	7,309	27,914	14.91	.17	15.08	5.35	20.43
1959-60	137,984	20,925	202	21,127	7,552	28,679	15.16	.15	15.31	5.47	20.78
1960-61	140,337	22,856	219	23,075	8,047	31,122	16.29	.16	16.45	5.73	22.18
1961-62	147,738	27,037	1,560	28,597	8,857	37,454	18.30	1.06	19.36	6.00	25.36
1962-63	155,721	29,262	2,867	32,129	9,678	41,807	18.79	1.84	20.63	6.22	26.85
1963-64	162,837	30,564	3,390	33,954	10,532	44,486	18.77	2.08	20.85	6.47	27.32
1964-65	169,484	32,362	4,846	37,208	11,209	48,417	19.09	2.86	21.95	6.61	28.56
1965-66	182,568	37,390	7,439	44,829	11,905	56,734	20.48	4.07	24.55	6.52	31.07
1966-67	197,617	40,796	9,555	50,351	12,715	63,066	20.64	4.84	25.48	6.43	31.91
1967-68	208,664	44,328	13,571	57,899	13,481	71,380	21.24	6.50	27.74	6.46	34.20
1968-69	216,071	46,867	16,721	63,588	14,326	77,914	21.69	7.74	29.43	6.63	36.06
1969-70	222,340	48,457	19,411	67,868	15,024	82,892	21.79	8.73	30.52	6.76	37.28
1970-71	230,899	50,691	22,101	72,792	15,805	88,597	21.95	9.57	31.52	6.84	38.36
1971-72	240,267	53,024	24,792	77,816	16,549	94,365	22.07	10.32	32.39	6.89	39.28
1972-73	242,394	54,893	27,500	82,393	17,238	99,631	22.64	11.35	33.99	7.11	41.10
1973-74	243,862	56,520	29,951	86,471	17,894	104,365	23.17	12.28	35.45	7.34	42.79
1974-75	246,230	57,866	31,797	89,663	18,541	108,204	23.50	12.91	36.41	7.53	43.94

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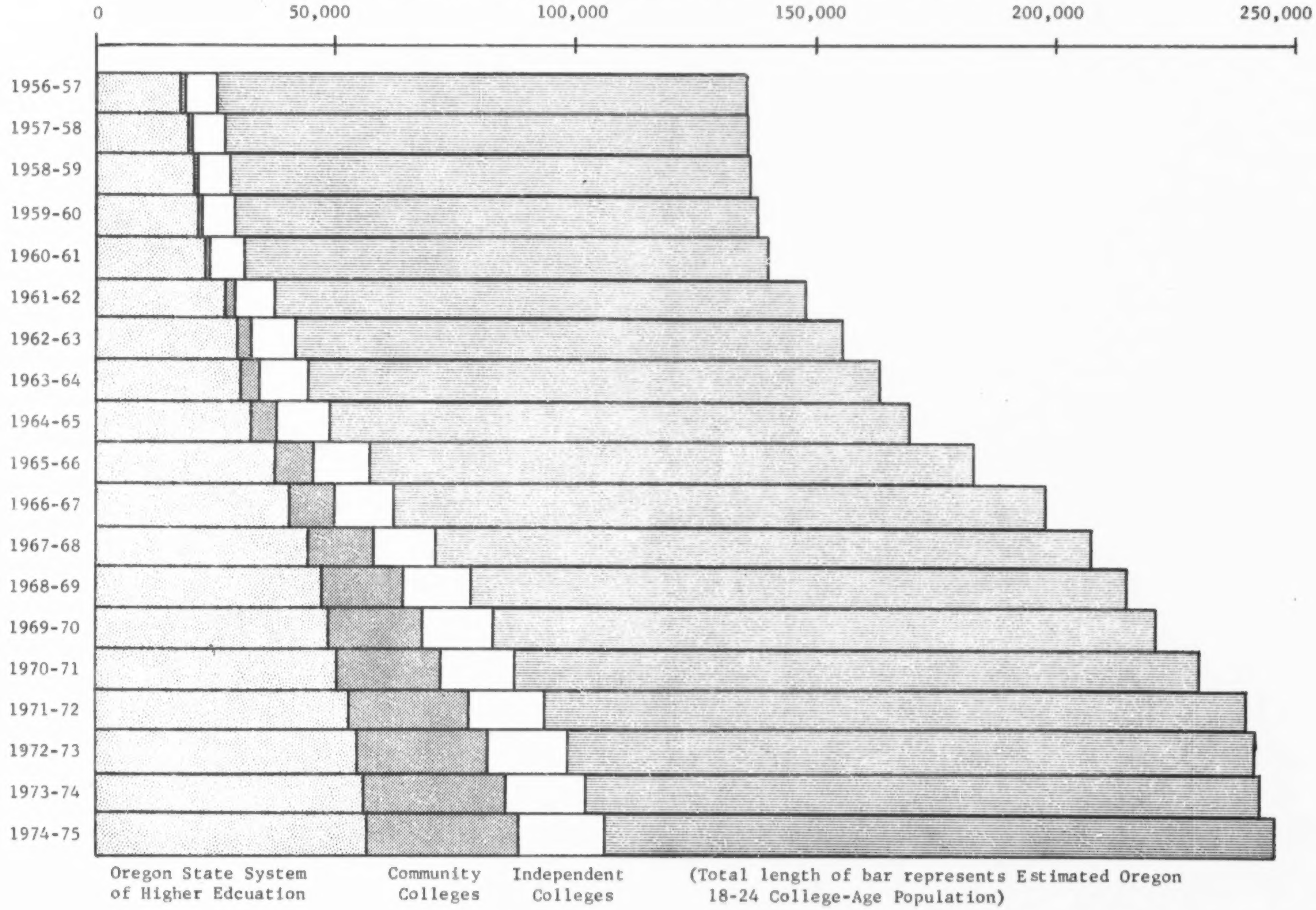
[1] 1956-57 to 1965-66 (actual) and 1966-67 to 1974-75 (estimated).

[2] 1956-57 to 1964-65 (actual); 1965-66 to 1974-75 (estimated).

[3] Estimated enrollments shown in this table were not derived as percentages of the 18-24-year-olds in Oregon. The derivation of the enrollment estimates is described on pp. 26-30. Included in the enrollment estimates, in addition to those who are in the 18-24-year-old age category, are those who, though under 18 or over 24 are expected to enroll in the colleges and universities. In short, the percentage figures in the above table are derived by relating the estimated enrollments of all ages in the colleges and universities of Oregon to the actual or estimated (depending upon the year) 18-24-year-old pool.

FIGURE V

ESTIMATED OREGON COLLEGE-AGE POPULATION WITH AVERAGE-TERM FTE ENROLLMENTS IN OREGON COLLEGES AND UNIVERSITIES - 1956-57 to 1974-75



Derivation of the Enrollment Data

Enrollment projections generally represent a melding of: (1) information concerning the numbers of potential students in the service area of the institution, (2) past enrollment trends of the institution, and (3) the most insightful assessment that the forecaster can make of the forces and influences likely to be operative in the future in a manner which promises to modify past enrollment trends.

State System of Higher Education and Independent College Estimates

Mature, stable institutions, long in existence, have available as a basis for their enrollment projections a rich store of enrollment information from past years which provides a solid base for making enrollment forecasts. Such is the case with the state system institutions and the independent colleges and universities.

The state system enrollment projections included in this study are the result of the collaborative efforts of the institutions and the state system office of institutional research. The projection assumes that the freshman class at system institutions will continue to bear the same relationship to the previous June high school graduating class as has occurred during the past year (1965), and that any increases in the number of freshmen enrolled in the state resulting from increased interest in post-high school study will accrue to the community colleges. Enrollments will increase at the system institutions because there will be some increase in the numbers of students graduating from the high schools, because students are staying in school longer, and because development of the community colleges should increase the numbers of students transferring to system institutions at an advanced level. (The number of students transferring from Oregon community colleges is not large enough to be significant at present - 141 students fall term 1964, 265 students fall term 1965 - but these numbers should increase.)

In the ten years 1956-57 to 1965-66, short-range, annual, head-count enrollment estimates for the State System of Higher Education have deviated from the actual enrollments less than 1.0 percent in each of five years (1956-57, 1957-58, 1958-59, 1963-64, 1964-65), less than 3.0 percent in two years (1960-61, 1962-63), just over 3.0 percent in 1959-60, and 7.8 and 7.2 percent in 1961-62 and 1965-66, respectively. Long-range projections, as in Table 7, p. 24, are less accurate, but are useful and necessary for long-range planning. These projections are revised annually to take into account most recent enrollment experience.

The independent college enrollment projection included in this study is a summary of projections of the individual institutions participating in the post-high school study.[1] As a result, the basic premises on which individual enrollment projections were made are probably as varied as the institutions themselves. Certainly the independent institutions will share in the increase of the numbers of students who will seek education beyond the high school in the years ahead. However, as we shall note later in this section, the number of students enrolled in the independent colleges will, in the period covered by this study, be a smaller percentage of the total enrollments in Oregon than at present, if present estimates prove reliable.

Projections for both the system and independent institutions include both in-state and out-of-state students.

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[1] The enrollment data for independent colleges included in Table 7 include data from the following institutions: Cascade, Concordia, George Fox, Lewis and Clark, Linfield, Marylhurst, Mt. Angel, Multnomah, Northwest Christian College, Pacific, Reed, University of Portland, Warner Pacific, and Willamette. Not included are data for Judson Baptist College.

Community College Estimates

Community colleges in Oregon, like new institutions everywhere, lack the wealth of enrollment records which the mature institutions have developed. Hence, they must rely more upon the enrollment experiences of similar institutions elsewhere, which have been long in existence, and upon other indices of probable enrollments.

The enrollment projection for Oregon community colleges presented in Table 7 is a projection of reimbursable student full-time equivalencies.[1] The projection is based upon a 1965 enrollment projection of grades 9-12 and assumes the following:

1. Average daily membership (grades 9-12) can be projected from the enrollment projection (grades 9-12) by assuming that the same relationship between average daily membership and enrollment will continue to exist in the future as has existed in the past.

2. The projected average daily membership (ADM) of any given area in the state will maintain the same relationship to state totals as existed in 1964-65.

3. The potential reimbursable student full-time equivalency of a community college is one-fourth of the projected grade 9-12 average daily membership of the area served. (The 1:4 ratio was applied to all schools except Treasure Valley which has already exceeded that ratio. Treasure Valley's potential is projected on a 1:3 basis.)

4. Oregon's community colleges generally may be expected to achieve their potential enrollment in a ten-year period. Experience suggests that Clatsop and Treasure Valley community colleges will attain their projected potential enrollment in a shorter time and their projected enrollments have been adjusted accordingly.

5. The rate of growth of individual institutions toward their potential enrollment is a linear projection.

6. Lower-division collegiate and "all other programs" are projected separately. In the ten operating community colleges (1966), the difference between the two is projected as the history of the institution indicates.[2] For the schools not yet in existence, it is assumed that 50 percent of their total enrollment will be in lower-division collegiate work.

The State Department of Education, which works closely with the community colleges in Oregon, emphasizes, in making the enrollment projections for the community colleges that are presented in Table 7, that community college enrollment projections extending over the period covered in this report are "extremely hazardous." Among the factors that render such projections difficult are these: (1) since community colleges are relatively new in Oregon, there is no broadly based Oregon experience in terms of which reliable trends in enrollment can be established, (2) since the establishment of community colleges in Oregon is dependent, among other things, upon local initiative and popular election, it is difficult to forecast the starting date of new community colleges in Oregon, (3) it is not possible to predict with any precision the rate of expansion of course offerings in any given community college, and the range of the programs offered is likely to be related to the range of abilities and objectives to which the college will appeal.

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[1] Not included are students enrolled in non-reimbursable courses or students who are not Oregon residents.

[2] Oregon, State Department of Education, A Study of Oregon Community Colleges 1962-1965 (Salem, Oregon: The Department, February, 1966), p. 42. Community colleges included in this projection are: Blue Mountain, Central Oregon, Clatsop, Lane, Portland, Salem, Southwestern, Treasure Valley, and Umpqua. Also included were estimates for: (1) Mt. Hood and Clackamas community colleges, which will open in 1966-67, and (2) the following areas which it is anticipated will provide community college services: Linn-Benton, Mid-Columbia, South Central, Washington County.

We include here three comments from the state department document on community colleges, which was prepared for the post-high school study committee by the department, to illustrate the reservations the state department has concerning the community college enrollment predictions included here:

> Until such time as Oregon community college development levels off and provides a stable historical base upon which to project enrollment data, major planning emphasis should be given only to projections made one biennium at a time.[1]
>
> . . . .
>
> Enrollment trends in Oregon community colleges must be studied in terms of the status of each institution at a particular time. Reference was made earlier to a number of variables making enrollment projection difficult. The fact remains that these same variables strongly determine enrollment trends within programs. Obviously inadequate funding for the construction of facilities hampers enrollment growth. The higher cost of constructing vocational-technical facilities results in fewer student stations per construction dollar than does the comparably lower cost of the lower-division collegiate facilities. More subtly, the admission procedures of four-year colleges and the condition of the economy operate to influence changes in the rate of lower-division collegiate enrollment within community colleges. Lower-division collegiate enrollment can, of course, be accommodated in facilities more easily obtained or converted than can vocational-technical enrollment.
>
> . . . .
>
> Perhaps the most accurate statement that can be made about projections at this time is that total community college enrollment in Oregon will substantially increase over the next decade, quite probably beyond the statistical projections, and the direction and emphasis of this enrollment will flow with the total impact of the variables involved.[2]

Something of the hazards involved in making projections for the community colleges at this stage is indicated by the fact that while the projection for 1964-65 of the Oregon community college FTE for the reimbursable programs was off only 1.0 percent from the actual FTE enrollment in 1964-65, the projection for individual community colleges ranged from a projection 51.0 percent low to one 51.5 percent high.

It should also be especially noted here that it seems likely that any marked changes in admissions requirements of the four-year institutions and in the costs of attending these institutions could have an important influence on the extent to which and how rapidly the community colleges increase their enrollments. Should admission standards in the four-year schools be changed with the specific view in mind of encouraging a large proportion of college-bound youth to attend their first two years at a community college, the impact on community college enrollment could be rather dramatic. On the basis of the studies carried on by the office of high school relations of the State System of Higher Education (referred to in Chapter V), it would appear that, to the present, the establishment of the community colleges has made little or no change in the percentage of high school graduates attending the state system and the independent institutions. This is not to say, however, that had the community colleges not been established, the state system and independent colleges might not now be enrolling a higher percentage of the graduating high school seniors than they now do. It should also be said that the post-high school study committee sees no disposition in Oregon to wish to alter admission requirements in the four-year institutions for the specific purpose of directing a larger proportion of the graduating seniors into the community colleges, nor does the committee consider that, in the period under discussion in this report, there is any useful purpose to be served by such direction.

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[1] *Ibid*., p. 35.
[2] *Ibid*., p. 43.

A Theoretical Enrollment Pattern for 1974 High School Graduates

Upon the foregoing assumption, the state system office of institutional research developed the following theoretical pattern of attendance of graduates of a mythical high school in year 1974-75, as a means of bringing enrollment patterns into sharper focus. The mythical high school used was one having an average daily membership of 500 in the ninth grade, a total average daily membership of 1,912 students, and a graduating class of 410 students. (These figures use current State Department of Education class mortality experience and would support a community college with 478 reimbursable full-time equivalent students - 713 head count - according to community college division estimates.)

Evidence in Oregon is to the effect that 45 percent of the high school graduates enter, in the fall following high school graduation, a state system institution, an independent college or university in Oregon, or an out-of-state institution (Table 34, Chapter V). If that percentage of the 410 graduates in the hypothetical school were to go on to college following graduation, this would account for 184 of the 410 graduates. The remaining 226 students, or 55 percent, would constitute the high school pool from which a community college could draw its enrollment, in addition, of course, to the community adult population pool.

Fall term 1965, 10 percent of the previous June's high school graduates enrolled in Oregon community colleges, and 45 percent entered the labor market, joined the armed services, enrolled in proprietary vocational schools, and so forth. Were these percentages to continue in our mythical 1974 high school graduating class, 41 June graduates might be expected to enroll in the community colleges the following fall and 184 would follow non-college activities.

If the percentage of local high school graduates attending the community college the fall term following graduation were to increase, each year, by two percent, by fall term 1974, 115 individuals (28 percent of the graduating class) would enroll in the community college. The portion of the 1974 June high school graduating class engaged in these various activities fall term following graduation then, as compared to the 1965 class, would be as follows:

	1965 Class	1974 Class
State system institutions, independent colleges, and out-of-state schools	45%	45%
Oregon community colleges	10	28
Sub-total, college-bound	55%	73%
Non-college (including proprietary schools, military service, work, etc.)	45	27
Total	100%	100%

It would appear highly unlikely that the non-college bound group can be reduced much below 27 percent. In this group are students of the proprietary schools (in 1965, 6.9 percent), including the hospital schools of nursing, business schools, beauty schools, etc.; persons going into the military services (in 1965, 5.9 percent), some of whom will receive training in service schools and some of whom will return to school upon completion of their military obligation; and young people who are able to go directly into jobs following high school graduation (in 1965, 21.5 percent), many in occupations where they will receive on-the-job training.

Whether the enrollment of 28 percent of the 1974 graduating class would support the projected community college full-time equivalent reimbursable enrollment of 478 would depend upon how many community college students come from the adult population residing in the area.

Comparison of System and Community College Projections

The foregoing discussion leads us to observe that the projections relating to community college enrollments and those relating to enrollments in the State System of Higher Education are not directly comparable. The community college division of the State Department of Education is projecting a potential community college enrollment based on total high school attendance, but which includes enrollments from the high school graduating class, as well as from the local community adult population pool. The State System of Higher Education is projecting a potential enrollment based on high school graduates, historical class retention rates, and estimates of graduate students provided by the institutions.

As the community colleges in Oregon pass out of their early developmental stages and into a steady, measured growth in curricula and enrollments, there will accrue the same wealth of enrollment data which the long-established institutions possess and find so useful in predicting enrollment trends. Meanwhile, the estimated community college enrollments are based upon the assumptions earlier described.

The reader will find in Chapter VIII the committee's recommendations concerning the community colleges, including recommendations as to those areas of the state, not now having available to their people community college services, which the committee feels should provide these services by 1974-75.

Trends in Numbers Enrolled in Oregon Colleges

An analysis of the data in Table 7 reveals the following interesting facts:

1. It is estimated that the number of 18-24-year-olds in Oregon will increase by 63,662 (34.9 percent) in the nine years from 1965-66 to 1974-75, which is a larger increase in point of numbers than the increase in the preceding nine-year period 1956-57 to 1965-66, in which numbers of 18-24-year-olds increased by 46,190 (33.9 percent). Though it is estimated that the actual increase in 18-24-year-olds will be larger in the next nine years than in the past nine years, the percentage increase will be about the same because of the larger base from which the percentage for the more recent period is calculated.

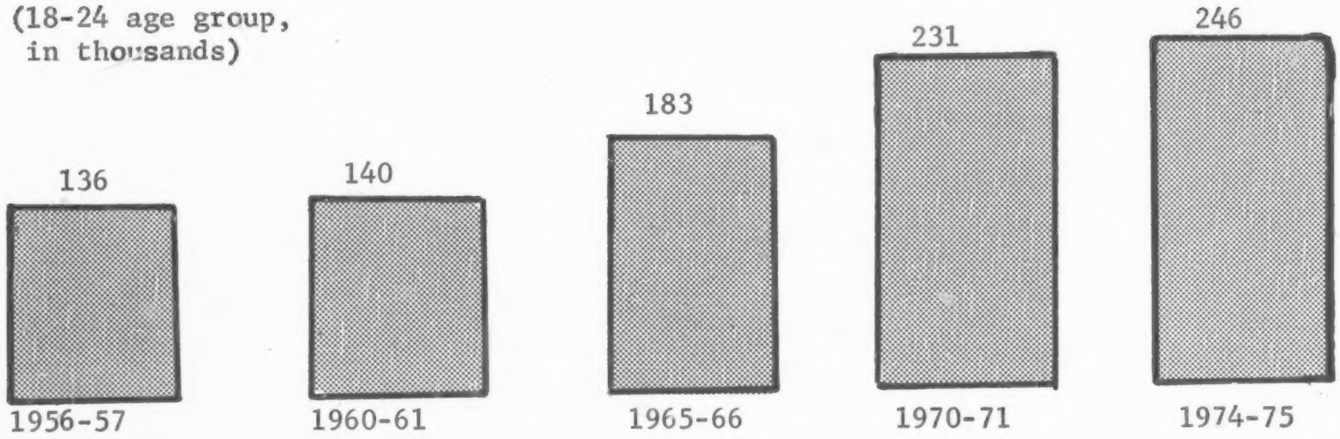
2. Enrollments in Oregon's colleges, public and independent, are expected to increase 51,470 (90.7 percent) during the next nine years (1965-66 to 1974-75). This is a larger number increase but a smaller percentage increase than occurred during the previous nine years (1956-57 to 1965-66) when numbers of students increased by 31,986 (129.2 percent).

   The increase in enrollments from 56,734 in 1965-66 to an estimated 108,204 by 1974-75 results from three factors, the first two of which may be seen graphically in Figure VI, p. 31: (1) there will be more young people of college age, (2) it

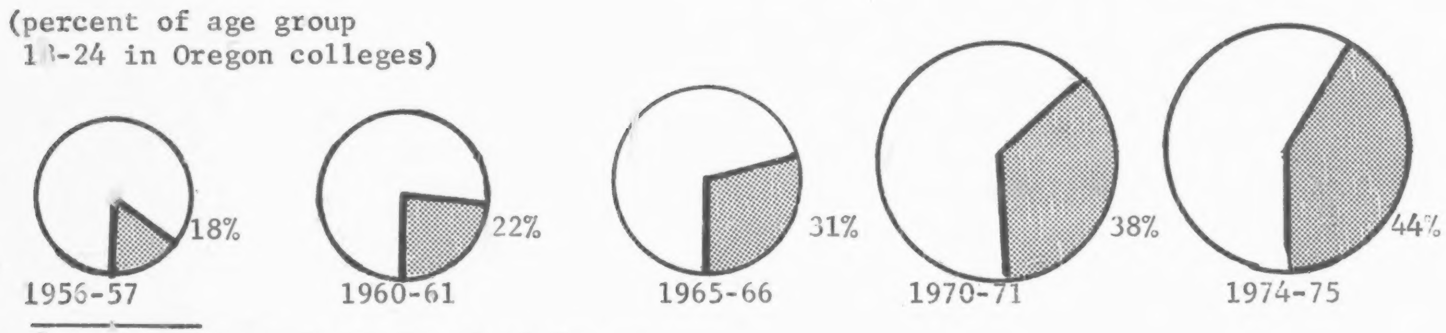
FIGURE VI

WHY COLLEGE ENROLLMENTS WILL RISE

There will be more young people of college age . . .



. . . and a larger proportion of them will be in college.



Source: Oregon State Board of Census

is expected that a larger proportion of them will be in college, and (3) increasing numbers of adults, beyond the normal college ages, are enrolling in post-high school institutions.

3. All three categories of collegiate institutions in Oregon (state system institutions, public community colleges, and independent colleges and universities) will experience a very considerable increase in enrollment from 1965-66 to 1974-75, as indicated below - the community colleges most especially.

	Estimated Percent Increase in Enrollment	Enrollments
State System Institutions		37,390 - 1965-66
	54.8%	57,866 - 1974-75
Public Community Colleges		7,439 - 1965-66
	327.4%	31,797 - 1974-75
Independent Colleges		11,905 - 1965-66
	55.7%	18,541 - 1974-75

4. Though it is estimated that enrollments in the state system and independent colleges will continue to increase from 1965-66 to 1974-75 (by more than 20,000 in the state system institutions and by more than 6,000 in the independent colleges and universities), the proportion of Oregon's college enrollments provided for in the state system institutions and in the independent colleges and universities will continue to decline, while the proportion provided for in the community colleges will continue to increase (Table 8, p. 33).

In the period from 1956-57 to 1965-66, the proportion of the total college enrollments in Oregon accommodated in the state system institutions has declined from approximately 72.3 percent to approximately 65.9 percent; at the independent colleges, from 27.0 percent to 21.0 percent; while in the community colleges the percent enrolled has risen from 0.7 percent to 13.1 percent. By 1974-75, it is estimated that the state system institutions will enroll 53.5 percent, the independent colleges approximately 17.1 percent, and the community colleges 29.4 percent.

It is estimated that 1967-68 will be the first year that the community colleges will enroll a higher proportion of the Oregon total than will the independent colleges (19.0 percent compared with 18.9 percent). Figure VII, p. 34, presents the foregoing data in a more graphic form.

TABLE 8

PERCENT OF TOTAL COLLEGE ENROLLMENTS IN OREGON IN STATE SYSTEM INSTITUTIONS, PUBLIC COMMUNITY COLLEGES, AND INDEPENDENT COLLEGES[1]

(1956-57 to 1974-75)

Academic Year	Percent Enrollment is of Total College Enrollment in Oregon			
	Oregon Public Colleges			
	OSSHE[1]	Community Colleges[2]	Totals	Independent Colleges[1]
1	2	3	4	5
1956-57	72.3	0.7	73.0	27.0
1957-58	73.1	0.6	73.7	26.3
1958-59	73.0	0.8	73.8	26.2
1959-60	73.0	0.7	73.7	26.3
1960-61	73.4	0.7	74.1	25.9
1961-62	72.2	4.2	76.4	23.6
1962-63	70.0	6.9	76.9	23.1
1963-64	68.7	7.6	76.3	23.7
1964-65	66.8	10.0	76.8	23.2
1965-66	65.9	13.1	79.0	21.0
1966-67	64.7	15.1	79.8	20.2
1967-68	62.1	19.0	81.1	18.9
1968-69	60.1	21.5	81.6	18.4
1969-70	58.5	23.4	81.9	18.1
1970-71	57.2	25.0	82.2	17.8
1971-72	56.2	26.3	82.5	17.5
1972-73	55.1	27.6	82.7	17.3
1973-74	54.2	28.7	82.9	17.1
1974-75	53.5	29.4	82.9	17.1

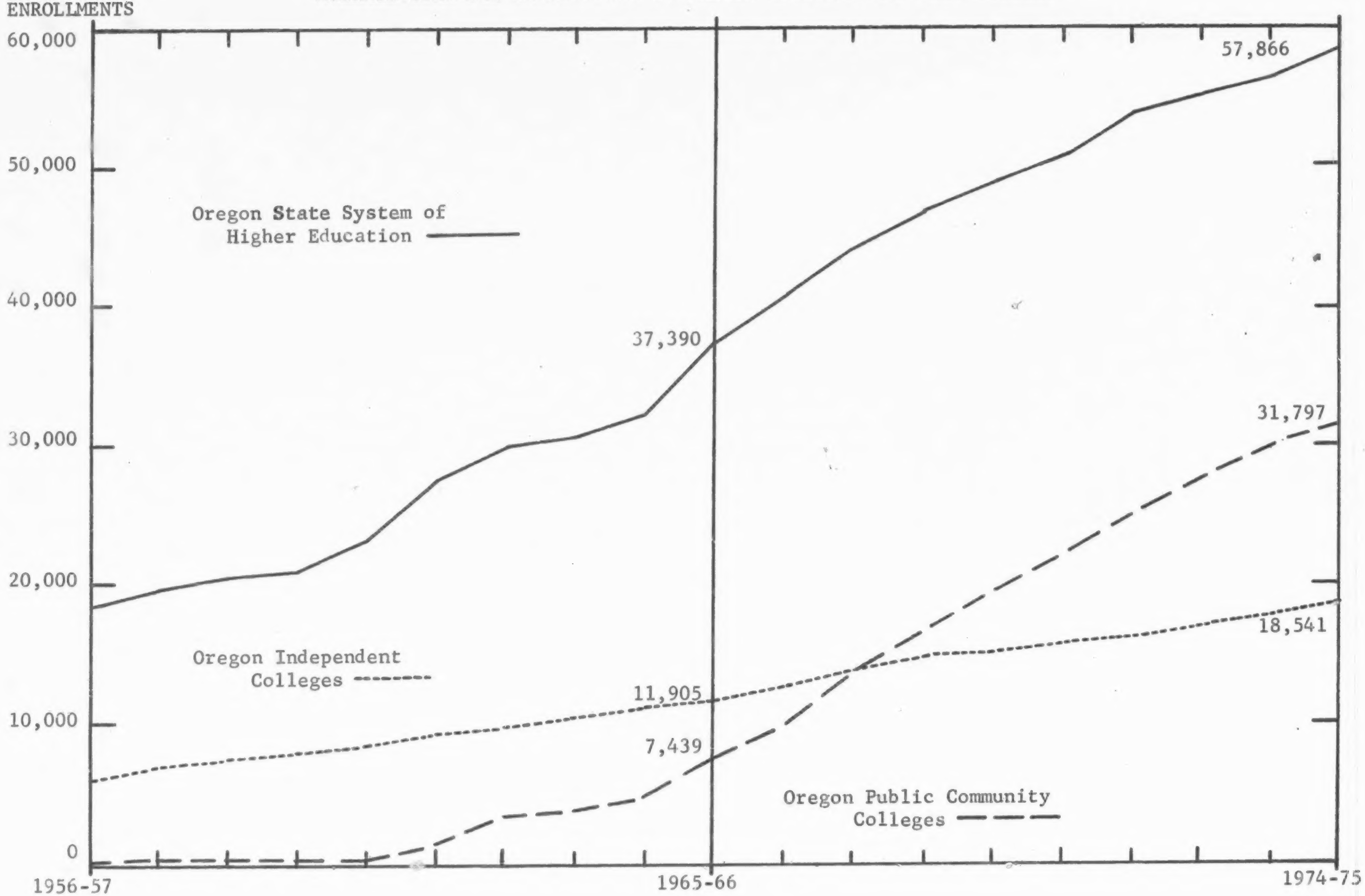
[1] 1956-57 to 1965-66 (actual), 1966-67 to 1974-75 (estimated).

[2] 1956-57 to 1964-65 (actual), 1965-66 to 1974-75 (estimated).

Source: Office of Institutional Research, Oregon State System of Higher Education. Data for community colleges and independent colleges supplied by Oregon State Department of Education and the individual independent institutions, respectively.

FIGURE VII

AVERAGE-TERM FTE ENROLLMENTS IN OREGON COLLEGES AND UNIVERSITIES



Source: Office of Institutional Research, State System of Higher Education.

CHAPTER IV

Making Post-High School Education Effectively Available

In Chapter II we suggested as a long-range goal toward which Oregon should work, the development of widely varied post-high school educational and training opportunities made effectively available to all who can profit therefrom. This means that not only must the educational and training resources be in existence in a physical sense, they must be accessible to the students who have the capacity to benefit from them, accessible in the sense that the student is not denied their use because of unnecessarily rigorous admission or retention policies, or because the cost of access to them exceeds the student's financial capacity.

Such an aim has far-reaching implications for basic policy decisions affecting post-high school education in Oregon. In this present chapter, we shall examine selected student personnel policies relating to accessibility of post-high school education in Oregon: (1) high school-post-high school transition and the interinstitutional transfer of students, (2) admission and retention policies, (3) tuition and fees, and (4) student financial aid.

The Transition from High School to Post-High School Education and Training Activities

The effective transition of young people from high school-level educational activities to post-high school-level educational and training activities requires:

1. A matching of the student's post-high school objectives with his interests, abilities, and aptitudes.

2. A matching of the student with post-high school educational or training opportunities so that he enrolls in those programs which are best designed to serve his interests, abilities, and objectives.

3. An effective counseling program in the post-high school institution to assist the student in the acclimatization process.

No one familiar with post-high school education can fail to have been struck by the frequency with which the student's post-high school objectives are mismatched with his abilities and aptitudes, or how often the student is enrolled in post-high school programs quite out of keeping with his abilities and aptitudes. The reasons for such mismatches are numerous and varied. The following are illustrative:

1. It may be a persistent unwillingness of the student and his parents to face the facts concerning the student's abilities and aptitudes.

2. It may be a specious value placed upon a strictly liberal arts education by the student and his parents as having a universal value which it does not possess.

3. It may be sheer ignorance - ignorance of the student's abilities and aptitudes, ignorance of the wide range of post-high school education and training

opportunities from which the student may select his post-high school program, ignorance of the opportunities for rewarding service and the attainment of a substantial measure of economic security in non-academic areas of activity.

4. Or perhaps it may be that the state and community, together, have failed to provide a sufficient range of post-high school education and training opportunities to meet the diverse aptitudes, interests, and objectives that must be served if post-high school education is to become as effectively available as we are proposing in this study.

Matching the Student's Post-High School Objectives With His Interests, Abilities, and Aptitudes

The matching of the student's post-high school objectives with his interests, abilities, and aptitudes requires a realistic assessment by the student and his parents of the former's abilities and a willingness to face squarely the implications of this assessment in arriving at post-high school objectives.

An effective high school guidance program is basic to the development of this self-knowledge. For it is in high school that the developing student may be observed most closely, where his abilities and aptitudes may most effectively be assessed, where appropriate counseling may be undertaken to assist him in understanding his potentialities, and in relating these potentialities to the wide variety of available post-high school work and study opportunities.

We are of the opinion that the high schools should assume this guidance function not alone for those students enrolled in school but as well for those high school-age youngsters resident in the school district who have for one reason or another dropped out of school. We believe that there is no better locus for such service to these young people than the high school and we foresee none developing likely to have equal promise for service to the out-of-school high school-age youngster.

In areas served by the community colleges, these institutions should make available guidance service to the post-high school-age population.

Matching the Individual and His Objectives to Post-High School Educational Opportunities

Matching the individual and his objectives to appropriate post-high school opportunities - whether these opportunities be in the form of work, military or other service, or further post-high school education and training - is, again, a function of the high school guidance services, assisted in this instance by various other agencies.

In assisting high school students to make appropriate choices among the various post-high school education and training opportunities, the post-high school education and training institutions and agencies must assume an active role, working in close cooperation with the high school guidance services. This cooperation takes a variety of forms.

Liaison Between High School and College Representatives

Of major importance in promoting successful high school to college transition is the maintenance of close liaison among colleges and between high schools and colleges. Two agencies in Oregon promote such liaison: The Oregon High School-College Relations Council and the Pacific Northwest Association of College Admissions Counselors.

Oregon High School-College Relations Council. Created in 1966, the Oregon High School-College Relations Council is an outgrowth of, and a successor to, the high school-college relations committee of the State System of Higher Education which functioned from 1934 to 1966 in the interests of promoting harmony between the colleges and universities of Oregon and the high schools as they worked together to encourage and to facilitate the high school graduates' taking full advantage of appropriate post-high school education and training opportunities.

Representation on the council is intended to be sufficiently broad to give voice to the major post-high school educational institutions and agencies of the state, as well as to the secondary schools. The council includes representatives of each of the public and independent two- and four-year colleges and universities and representatives of secondary school organizations (State School Boards' Association, Association of School Administrators, Association of Secondary School Principals, Oregon Personnel and Guidance Association, Oregon School Activities Association). Through a variety of standing committees (constitution and policy, admissions, student contacts, student financial aids, public liaison, continuing studies, and advanced placement), the council investigates all phases of the interrelationships of the high schools and colleges and proposes recommendations as to policies and procedures that will promote more effective articulation, and thus ease the transition of students from high school into college.

The High School-College Relations Council offers a splendid opportunity for the continuation of the close working relationships of the high schools and colleges and universities in promoting the effective transition from high school to college. We recommend that the already extensive membership list of the council be extended yet a little more to include representation from the private vocational schools of Oregon.

Pacific Northwest Association of College Admissions Counselors. The Pacific Northwest Association of College Admissions Counselors brings together college admissions personnel and the high school counselors responsible for advising college-bound students. Such contact enhances the effectiveness of the high school counselors and serves to apprise college admissions personnel of the problems the high school counselor faces in advising high school students. A relatively new organization in Oregon (established in Oregon in 1965), the association appears to have great promise for improving the high school-college transition of students.

Miscellaneous organized contacts of high school counselors and college and university representatives. Apart from the activities of the foregoing two organizations which are devoted to articulation in Oregon, there are numerous miscellaneous organized efforts to bring together high school counselors of college-bound youth and representatives of the public and independent colleges and universities.

For example, the office of high school relations of the state system inaugurated an important development in 1965-66 by bringing together high school counselors from various parts of Oregon in 17 different regional conferences. The purpose was to advise the counselors of changing admission requirements, procedures for applying for state scholarships, and how, most effectively, to use information from the colleges and universities in advising high school students who are college bound. Such conferences will constitute an aspect of the state system's continuing contact with high school counselors in the future.

In addition, the individual state system colleges and universities promote various special programs for high school counselors. Most of the state system institutions, for example, annually conduct counselor sessions on campus. These meetings provide high school counselors a means of maintaining current information concerning the admission and other relevant college and university policies, and they provide, too, a means by which the high school counselor may learn from former students, now in college, how they made the transition and what might have been done, either in high school or in college, in the student's judgment, to have made the high school-college transition easier.

The independent colleges and universities also rely heavily on high school counselors. They, therefore, have several kinds of programs designed to keep high school counselors abreast of developments in the independent institutions. Counselor dinners are sponsored by the Pacific Northwest Independent Colleges in various regions of Oregon and Washington and on the several separate campuses. Counselor workshops, college guidance meetings, and incidental counselor sessions are also held by the independent institutions.

Publications

The two principal publications designed to inform high school counselors and high school students of the educational programs available in the colleges and universities of Oregon are: Mapping Your Education and Your Education.

Mapping Your Education is a publication resulting from the continuing cooperation of the public and independent colleges of Oregon and Washington. Published annually, it contains a discussion of the importance of seeking post-high school education, the preparation necessary to admission to the several institutions of higher education in Oregon and Washington, and rather detailed information concerning each of the cooperating public and independent colleges and universities (e.g., curricular programs available, admission requirements, costs, etc.). Mapping Your Education has a circulation of 10,000 copies. It is used in group guidance in the high schools of the two states and is heavily used by high school counselors in advising with college-able students as to the educational opportunities that appear most relevant to the student's abilities, aptitudes, and post-high school objectives.

Your Education, now in its sixteenth year of publication, is published and distributed by the Oregon State System of Higher Education through its office of high school relations. Consisting of approximately forty printed pages, Your Education provides information as to admissions requirements, costs of attending the several institutions, sources of student financial aid, and similar information, in addition to which it gives a concise resume of the various curricular programs offered by the state system colleges and universities and the several community colleges as well. In excess of 35 thousand copies of this publication are distributed each year. Copies are made available to high school counselors throughout the state and to high school students, as described hereafter.

Periodically, too, a newsletter, Counseling for College, is published by the state system office of high school relations and widely distributed to persons involved in advising college-able high school students. The newsletter carries information relative to the state system institutions, general announcements concerning the professional activities of college counselors, and accounts of the actions of the Oregon High School-College Relations Council, previously referred to.

In addition to the foregoing widely distributed publications, the colleges and universities, both independent and public, provide the high schools with catalogs, special informational leaflets and booklets of various kinds, and, in the case of the independent institutions, in particular, follow-up letters to specific students.

High School Visitations by Representatives of Public and Independent Colleges and Universities

Oregon has a rather remarkable program of annual visitations by public and independent college representatives to all of the high schools of Oregon for the purpose of advising and counseling with high school students concerning the post-high school educational and training opportunities available in the state. The high school visitation program of the State System of Higher Education institutions is more extensive than that of the independent colleges and universities, as is to be expected in view of the public character of the state system institutions.

High school visitations by institutions from the Oregon State System of Higher Education. Representatives of the Oregon State System of Higher Education visit the high schools annually in an organized visitation program.

The visitation teams are constituted so as to provide the high school students with sound general information about the advantages of post-high school education and, at the same time, to give them specific information about specific programs available in the several institutions of the state system. The larger high schools are served by larger teams from the state system, the smaller high schools by smaller teams.

High schools having more than 75 seniors are visited by a team consisting of a representative of the state system office of high school relations, who serves as team captain, and representatives of the University of Oregon, Oregon State University, Oregon Technical Institute, and the nearest regional college (PSC, OCE, EOC, or SOC). Schools with fewer than 75 seniors are visited by a team consisting of a representative of the office of high school relations, who represents the two universities, a representative of Oregon Technical Institute, and a representative of the nearest regional college.

These visitations consist of a general presentation by the "team captain" to the entire student body, or to members of a specific class (i.e., senior class, junior class, etc.), as the high school principal wishes, following which institutional representatives meet for discussion with small groups of students interested in learning more concerning the programs available in the respective institutions.

In 1965-66, a total of 235 high schools (including 20 private high schools) were visited by the state system teams. In some instances, the teams met only with the members of the senior class (31 high schools), in some with the junior and senior classes (69 high schools), in some with the sophomore, junior, and senior classes (29 high schools), and in some with the freshman, sophomore, junior, and senior classes (106 high schools). The decision as to the number of classes to be involved in the discussions with the state system team is made by the high school principal.

Prior to these visitations, the state system distributes to all members of the junior classes in all of Oregon's high schools the booklet, Your Education, earlier described in this report. It is the feeling of the state system visitation teams that the information provided in Your Education will be most helpful to the juniors, for what they learn concerning college and university admission requirements, programs available at the institutions of higher education, and costs of education may be useful to them in their remaining time in high school in preparing for college entrance.

High school visitation by community colleges. As we earlier noted, the state system has included in Your Education information concerning the community colleges in Oregon. The state system visitation teams invite the community colleges to have representatives participate in the visitation in those high schools lying within the area educational district of the community colleges, whenever the high school principal desires a combined visitation. However, not infrequently the high school principal and/or the community colleges prefer to have the community college visitation separately.

High school visitation by the independent colleges and universities. The program of high school visitation carried on by the independent colleges and universities is more selective, less general, than that of the state system institutions. This stems from the characteristics of the independent institutions, which are charged less with a state-oriented public responsibility toward the graduating high school seniors of Oregon than is true of the state system institutions. Less extensive in their in-state visitation programs than the state system institutions, the independent schools extend their visitation programs to other states. Many of the independent colleges, for example, visit selected high schools in Washington and neighboring states, in addition to which they make selective contacts with students throughout the nation, in their efforts to secure a cosmopolitan student body of high ability.

The high school visitation program in Oregon is a significant supplement to the efforts of the high school counselors and guidance workers in informing high school students of the advantages of post-high school education and training, and in bringing them up-to-date information concerning the curricular offerings of the colleges and universities of Oregon. We consider it important that, in these visitation programs, the institutional representatives should serve as information-givers, not as proselytizers, advocates, or special pleaders for any given institution or agency. In short, this information program should be wholly consistent with, and integrated with, the guidance programs in the high school.

The informational program from the post-high school institutions and agencies should reach high school students each year of their high school careers. An early awareness of the post-high school study and training opportunities and the prerequisite preparation required will help give incentive to the student and direction to his high school program.

While the independent colleges may select the schools they visit, the public institutions whose responsibility it is to serve a statewide clientele should make high school visitations throughout the state. The public four-year regional colleges should make visitations within their service areas. The community colleges should make visitations within their area education districts and, upon appropriate invitation from the high school officials, the area immediately contiguous to the community college's district, if that area is not served by another community college.

Other Visitations

In addition to the regular high school visitations, several other methods are used to facilitate the ready transfer of high school students to state system colleges and universities. Except when limited by a lack of funds, the state system office of high school relations has supplied speakers to address junior high school groups concerning how one can make the most of his high school experiences in preparing for the future. Special emphasis is given to the need for early planning to meet college admissions requirements and for early planning as to how the costs of post-high school education may be met. During 1965-66, speakers were provided for 31 junior high schools, which is some fewer than the 61 visited in 1962-63. The reduced program was occasioned by the lesser funds available.

One further step is taken by the state system through its visitation program. Whenever interest is manifest, the visitation teams to the high schools meet with parents in the evening to orient them to the nature and the extent of the college and university opportunities available through the State System of Higher Education. During 1965-66, 31 such interpretive meetings were held.

Continuing Studies of High School Graduates in Oregon

For a number of years, the state system office of high school relations has carried on three continuing studies of Oregon's high school graduating classes in the interest of providing information useful in planning for the admission of these graduates into post-high school educational opportunities: (1) a study of the anticipated post-high school activities of the graduating seniors in the public and independent high schools in Oregon, (2) a follow-up study of a randomly selected 10 percent of the graduating classes of the high schools to determine what these students were actually doing in September following graduation, (3) a study of the top 10 percent of the graduating class from each of Oregon's high schools to determine what activity they are involved in in September following graduation from high school. The data from these studies are treated in Chapter V.

2

Making the Adjustment to the College Situation

The transition of the high school student to post-high school education has not been completed until the student is enrolled and acclimated to the life of the institution. The process of acclimatization is not easy. And it varies with the student and the nature of the institution he is attending.

To many students entering a four-year college or university, the transition requires considerable adjustment. They find themselves in a new world, a world in which they no longer have about them the familiar surroundings of home, but in which they live in residence halls or other establishments run by the institution or in some degree supervised by it. In a large institution they are almost certainly not likely to move in groups of familiar friends, but in an academic community of several thousand, most of whom are strangers.

There is thrust upon them an independence of action to which many are not accustomed and for which some are unprepared. They must quickly learn to work with a measure of independence. Except for the initial group guidance sessions at the outset of the year, they are expected to seek guidance from counselors and faculty as they themselves determine the need, rather than on a regularly scheduled basis to which they were accustomed in high school. And in the larger institutions, guidance help may seem quite remote to the individual who, though he may experience a troubling sense of distress, may not have the initiative to search out the advisory help that he needs. The faceless anonymity of the large institution is for some so overwhelming that it seems to rob them of the power either to make their wants known or to seek the help they need. Moreover, the competition for academic success is greater than they have hitherto known.

Added to these potentially unsettling situations is the fact that, for the first time for many students, they face in college the requirement that they make independent judgments relating to their personal values and conduct. And these judgments must be made without ready reference to the comforting and sustaining support of home or the familiar church or community. So it is that transition to college life is a challenge for all. For some it is overwhelming.

For the student in a community college the change is less radical than for those entering a four-year institution. As the state system committee on community colleges has pointed out:

> More often than not he continues to live at home and to move in the world of places and persons long familiar to him. He may attend classes in buildings he has frequented for years and be instructed by teachers with whom he has been long acquainted. His associates are in most cases old friends or students from near-by areas.[1]

These conditions make some aspects of the transition from high school to college less of a wrench for the community college student than for the student entering the four-year institution, but the very conditions that in the community college make for an easy transition in one sense, pose other problems of transition to a life of responsible and rigorous intellectual activity. In the words of the state system committee on community colleges:

> These conditions are not in themselves disadvantageous to the student bent on furthering his education. They may well provide an atmosphere of stability and friendliness in which he can happily put forth his best endeavors and which may stimulate in him pride in the community

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[1] Oregon State Department of Higher Education, "Community College Committee: Policies and Procedures," Minutes of the Oregon State Board of Higher Education, Meeting #321, December,9-10, 1963, pp. 581-2.

> of which he is a part. This is all to the good. But as educators we must face the fact that an atmosphere of stability and friendliness and a too-long association with the familiar can sometimes act to pull the intellectual powers to a performance below their potentialities.
>
> One problem, then, that a community college of its very nature as a community college faces, is that of using what resources it has to make its entering students aware of the fact that their passage from high school to college is not part of a drift onward but is a step forward deliberately taken.[1]

The program of guidance for entering freshmen varies from institution to institution, but includes usually one or more of the following activities: pre-freshmen conferences in local communities, pre-registration workshops especially for marginal students, advanced registration, orientation, academic advisor assignments, placement testing, and residence hall counseling. Some of the institutions are experimenting with plans for more extensive academic advising keyed to individual needs.

1. Redoubled efforts must be made, particularly by the larger institutions in Oregon, to ease the transition of entering freshmen into the life of the institution. To be sure, the large, complex institutions must of necessity, if they are to be efficiently administered, utilize labor-saving, time-saving, automated procedures in certain aspects of their administrative work. But to some entering freshmen, certain aspects of this machinery by which he is enrolled, accounted for, and dealt with appear to him to consign him to an anonymity which he finds most bewildering. Institutional bigness, for all of its storied hazards to the individuality of the student, need not, in actuality, foreclose the needed personal attention so essential to the student's mental health.

2. Since registration procedures, particularly in the larger institutions, often, to the student, represent a bewildering experience, pre-registration programs for freshmen should be strengthened so as to offer a full measure of individual academic counseling, placement test interpretation, and general guidance.

3. The high incidence of change in major objectives in the first two years of college, resulting often in an early, and sometimes premature, termination of the student's post-high school educational career, suggests the need for extensive guidance facilities on campus, adequate provisions for pre-withdrawal counseling, and a continuing study of drop-outs. The causes of premature drop-out which are subject to remediation by the college, or by the college and the high school jointly, must be identified and removed, insofar as feasible.

4. The distress occasioned in some freshmen students by their failure to receive the benefits in college of a structured counseling situation similar, in some measure, to that to which they were accustomed in high school suggests that the post-high school institutions should examine, in the light of this student need, whether their present counseling programs are adequate to the needs of the freshmen students, for whose adjustment a structured counseling situation may be crucial.

The Transition from the Two-Year to Four-Year Colleges and Universities

Under Oregon law (ORS 341), until a community college is properly accredited by the regional accrediting association (Northwest Association of Secondary and Higher Schools), the State Board of Higher Education is charged with the responsibility of approving the college transfer courses of the community college and the instructors employed to teach these courses.

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[1] *Ibid*., p. 581.

This legal tie has obviated many problems that might otherwise have arisen in relation to the acceptance, in the four-year institutions, of college transfer courses taught in the community colleges.

The State Board of Higher Education has delegated to a state system committee on community colleges the responsibility for administering the provisions of ORS 341. The committee, working closely with representatives of the State Department of Education and the community colleges, has encouraged the community colleges to offer basic courses common to the lower-division programs in the state system four-year institutions and taught, in the main, by persons who have a master's degree in the field in which they are teaching.

Further to assist the community colleges and the college transfer students attending them, the state system committee has developed, with the assistance of the deans and department heads of the state system colleges and universities, recommended one- and two-year programs in 19 professional areas (i.e., agriculture, art, architecture, applied science, business administration, engineering, home economics, elementary education, etc.), and in 23 areas of the humanities, social sciences, and sciences (i.e., English, philosophy, foreign language, economics, history, political science, biology, botany, chemistry, mathematics, etc.). These programs set forth recommended courses for each quarter of the academic year, which, if taken by the community college student, will permit him to transfer to a four-year institution and earn his baccalaureate degree without loss of time. Since the courses, and the instructors teaching them, have had prior approval of the state system committee on community colleges, there is no question as to their acceptability in transfer from the community colleges.

1. In our view, the aforementioned responsibility of the Oregon State System of Higher Education for the approval of the community college transfer program, during the formative years of the community colleges, has been and continues to be a useful device for establishing soundly based college transfer programs in the community colleges.

2. We think it vital that after the community colleges are accredited by the Northwest Association of Secondary and Higher Schools, the state system committee on community colleges maintain a continuing close contact with the community colleges in order that there may be a sharing of information concerning developments in the undergraduate curricula in the state system institutions and the college transfer programs of the community colleges.

3. The state system committee on community colleges should continue its yearly reports of the academic achievement of community college transferees in the four-year institutions as one source of information useful to the community colleges in their continuing efforts to improve their college transfer programs. As accredited institutions, the community colleges will be masters of their own destiny. The record of the academic achievement of their transferees in the four-year institutions will then become, in a measure, a principal testament of the effectiveness of the transfer programs. Whatever information can be secured on a systematic basis as to the experience of their students who have transferred to four-year institutions will be helpful to the community colleges in maintaining sound transfer programs. One important source of information will be the record of academic achievement referred to above. Other sources which the community colleges will wish to tap are the students themselves and personnel in the four-year institutions having first-hand knowledge of the work of the transfer students (counselors, professors, and others).

4. The state system committee on community colleges, working with the State Department of Education, which has general oversight of the community colleges in Oregon, and with the Oregon Association of Community Colleges, should lead out in the development of plans for promoting among professors in the same subject

matter areas in the two- and four-year institutions a ready, easy means of communication which will reflect the seamless character of education from the freshman through the senior year, and the shared concern of the professors in the two- and four-year institutions that Oregon's students shall have access to a quality education at the collegiate level.

5. The State Department of Higher Education, working jointly with the State Department of Education and the community colleges, should develop a clear explication of the transfer possibilities between the community college technical programs and those offered at Oregon Technical Institute and Oregon State University. As the quality of the technology programs in the community colleges improves, and as Oregon Technical Institute and Oregon State University establish a variety of four-year baccalaureate programs, transfer possibilities should increase. The vocational-technical programs at the community colleges may, in an increasing number of instances, become "feeder" programs to the more advanced technical programs, especially those at Oregon Technical Institute. All possibilities should be explored and developed, so that the transition from the community colleges to appropriate four-year programs may be made readily by those students who wish to earn a baccalaureate degree.

6. Finally, the four-year institutions should, as we have recommended elsewhere, expand their efforts to facilitate the transfer from the community colleges of those students, who, having accumulated vocational-technical credit, may wish to transfer to a baccalaureate program in a non-vocational-technical field. This transition would be facilitated were the four-year institutions to expand the opportunities for transferring students to challenge by examination undergraduate courses. In this fashion, knowledge wherever and however acquired could be counted to the credit of the individual. This point is more fully discussed in Chapter V of this report.

Admissions Policies

Policies and Practices

Resident Requirements
State System Institutions

Prior to 1957, any student who had been graduated from an Oregon standard high school was allowed to enter a state system institution of higher learning. The high school diploma was accepted as an indication that the student had had at least a minimum preparation to pursue academic work beyond high school. It was estimated that half of the students who entered college at that time failed to return to school the second year, and about one in four completed college in four successive years.

On the basis of the foregoing experience, state system officials concluded that a selective admissions program should be developed. Accordingly, an interinstitutional committee on selective admissions was formed to develop plans for such a program. The committee concluded that the best single indication readily accessible for predicting college success was the high school over-all grade point average. It was discovered that by setting the entrance requirements at state system institutions at a 2.00 high school grade point average ("C" average) about 60 percent of those who graduated from Oregon high schools would be eligible to enter.

In searching for alternative means of identifying students who had the ability to do college-level work, but who had failed for one reason or another to achieve "C" average (2.00 GPA) in high school, the committee determined that a score of 880 on the SAT (Scholastic Aptitude Test) of the College Entrance Examination Board would be a comparable determinant. Then, in order not to close completely the door to students who could not qualify by high school GPA or SAT score, but who wished to enter a public college in Oregon, further provision was made to admit students on the basis of college work attempted. It was decided that Oregon students who could earn a "C" average in nine hours of prescribed college-level summer study, or in twelve hours of regular college-level work in an approved program, would be granted regular admission to any of the state system schools.

The foregoing provisions became the state system resident-student entrance requirements effective with fall term 1958. Oregon Technical Institute, which became part of the system in 1960, adopted the 2.00 GPA admission requirement for the 1962 school year, though OTI admits substantial numbers of students with less than a 2.00 high school GPA, provided they have other qualifications indicative of potentiality for success in technical education.

In 1963, in an effort more nearly to equalize student enrollments in the fall, winter, and spring terms, the State Board of Higher Education approved the raising of the entrance requirements at U of O, OSU, and PSC to 2.25 GPA (or 887 SAT score) effective in the fall term of 1964-65 only. Subsequently, this admission requirement was retained for the fall term of 1965 at the three institutions and in addition at Oregon College of Education. This requirement has been reaffirmed for these four institutions for fall terms 1966 and 1967.

Oregon Independent Colleges

Rather than establishing a basic GPA or SAT score admissions requirement, the independent colleges review the entire record of the student. Included in the evaluation are: high school GPA in selected courses, prerequisite classes successfully completed, test scores, and teacher and counselor recommendations.

Admissions Requirements for Out-of-State Students

Among the state system institutions, the two universities have the highest proportion of out-of-state students in their undergraduate student bodies (in 1965-66, 22 percent at University of Oregon and 16 percent at Oregon State University).

Prior to 1956, out-of-state applicants were admitted on the basis of a subjective evaluation of the student's record. In 1957, admission of nonresident students was restricted to those who had been graduated in the top 50 percent of their class. When resident admission requirements were established in 1958, a slightly higher requirement, 2.50 GPA or equivalent, was imposed on the out-of-state applicants. In 1964, as resident requirements were raised, nonresident admission requirements were raised to a 2.75 GPA, or equivalent, at the University of Oregon, Oregon State University, or Portland State College, and a 2.50 GPA at the other state system institutions.

Oregon independent colleges and universities vary considerably, both in the character of their admission requirements, which are generally the same for in-state and out-of-state students, and in the proportion of their student bodies who are admitted from out-of-state. The range in the percentage of out-of-state students, in 1964, was 73.2 percent in one independent college to 13.6 in another.

Provisions for Special Students

Opportunities in four-year institutions for students with less than a 2.00 high school GPA are available in the four-year public and independent institutions of Oregon, provided the student can demonstrate in some fashion appropriate academic aptitude.

Students who fail to graduate from high school, but who later decide they would like to pursue a college education, may do so if their class has graduated and if they have passed the high school equivalency examination, and score satisfactorily in the scholastic aptitude test. Or, these students may demonstrate their aptitude by earning a 2.00 GPA in college transfer work at a community college or in an approved program during a summer session at an accredited four-year college.

The Judgment Factor

Although requirements based on high school GPA or test scores are easily understood by students and their parents, the use of such criteria as the sole measure in determining admissibility can be questioned. Students who participate in athletics or leadership activities, for example, may have sacrificed academic achievement in the process, yet may, and often do, have potential for success in college.

A judgment factor, based on demonstrated abilities, scholastic and social, of the student in high school, might afford a better criterion than academic achievement alone for predicting success of the student in college. This would require an evaluation of the course of study in relation to the earned GPA, interpretation of test scores, recognition of honors and awards, and consideration of faculty evaluations of the student.

Recommendations

1. Differential admissions policies should characterize the post-high school institutions and agencies in Oregon.

   There should be opportunity in some post-high school institution or agency for each Oregon resident who can profit from post-high school education or training. The variety of programs offered must, therefore, be large, to accommodate the variety of talents and the range in potential for achievement found in society. And as the programs must vary in the nature of the talents they are intended to serve, so must the admissions standards to these programs vary in order adequately to reflect the character of the variety of programs available.

2. Admissions standards for specific programs and for specific institutions should be set at a level which will insure that those admitted have a reasonable chance of completing the program successfully.

   Institutions and agencies which admit students who have little chance of completing the program do the student a disservice and waste the resources of the institution.

3. As the state's "open door" or "opportunity institutions," the community colleges should admit all high school graduates, and other persons over 18, who can benefit from the programs of instruction available in the community colleges.

   As a measure of capacity for successful performance at the post-high school level, actual performance is superior to any tests thus far devised for measuring the students' capacity. The advantage of the "open door" admissions policy in the community colleges is that it offers to mature students this performance test.

4. The standards of probation and retention in the community colleges should reflect the fundamental aim of the community colleges, namely, to lead the students who are admitted under an "open door" policy to the highest level of achievement of which they are capable.

   Community colleges are unique. Theirs is a comprehensive curriculum ranging from vocational-technical programs to college transfer curricula. As "open door" institutions, it is theirs to maintain a program of continuing guidance of students as the latter seek, through try-out, to find the programs for which their capacities fit them. These institutional characteristics argue for a retention policy which permits the student an opportunity to test himself against the requirements of several programs, if such try-out is necessary to his "finding" himself, or to enter an appropriate remedial program without danger of being discharged from the college.

5. Admissions standards for the public four-year institutions should continue to be established as an aspect of a unified approach to planning within the State System of Higher Education.

   Admissions standards in the state system institutions will necessarily have due regard for, and will be consistent with, the aims and purposes of the institutions. Moderately selective admissions policies in these institutions seem both useful and necessary if entering students are to have a reasonable chance for success.

6. Admissions standards, though, should provide for some flexibility in assessing scholastic aptitude and other factors predictive of success in college.

   Scholastic achievement, or some measure predictive of capacity for scholastic achievement (e.g., CEEB tests, GED tests), must necessarily be an important basis for assessing the admissibility of students. But it should not be the sole basis. And, in the public four-year institutions, there is justification for establishing the threshold for admission at a level such that students may be given the benefit of the doubt and permitted the opportunity to demonstrate their capacity to do college work. What is here suggested is not an "open" admissions policy for the public four-year institutions, but a selective admissions policy which screens out the obviously academically unqualified, while providing an open field and a fair chance for those students who meet the threshold admission standards.

7. Retention in the four-year institutions should rest upon the student's demonstrated ability to develop the skills and acquire the knowledge which the program is designed to provide the successful student. When the student cannot meet these standards he should not be retained in the institution.

   If the public four-year institutions maintain a relatively low threshold for admission to the undergraduate programs, it may be anticipated that the proportion of students admitted and then eliminated for failure to maintain standards will be higher than were the admissions standards more rigorous. But the public nature of the institutions justifies the less rigorous admissions standards. And the maintenance of high-quality institutions demands an effective program of selective retention.

8. Admissions policies must be subject to continuing study, that they may provide for each institution a student body appropriate to the characteristics and the aims of the institutions, which, in themselves, may be subject to change.

   Decisions must be made, for example, as to the appropriate student "mix" for each institution. That is, what proportion of the student body should be graduate students, upper-division students, lower-division students? What proportion of the students at these several levels should be drawn from out-of-state? What achievement levels should be represented in the students admitted? Institutions in some states have found it useful to redirect, by means of differential admissions standards, students from one institution to another in order to maintain appropriate student "mix" and make more effective use of available resources. Illustrative of the changing student "mix" in some institutions is the increasingly large proportion of out-of-state students in the student bodies of some of the independent institutions, and the increasing importance of the graduate and upper-division students.

As it stands, however, the committee sees no pressing or immediate need for any drastic change in present admissions policies in the state system institutions after the manner of the California admissions pattern.

The emphasis in Oregon upon a mild program of selective admissions with emphasis upon selective retention seems best adapted to the Oregon situation. As described on pp. 44-45, students have access equally to all public four-year institutions except in the fall term, when four institutions have had, as an admissions requirement, a high school GPA of 2.25 (University of Oregon, Oregon State University, Portland State College, Oregon College of Education) and two have had an admissions requirement of 2.00 GPA (Eastern Oregon College, Southern Oregon College).

As is to be anticipated, the average grade point average of students entering the four-year institutions is substantially above the 2.25 GPA or 2.00 GPA required for admission. For instance, at the University of Oregon the average GPA of the entering class in the fall of 1965 was 3.02, at Oregon State University it was 3.03.

Given the manageable projected growth in the several institutions of the state system in the next decade, we see no need for any major change in admissions requirements.

9. Admissions standards for out-of-state students entering the state system institutions should be placed at a higher level than for in-state students, but not so high as to effectively exclude out-of-state students. The level should be such that there might be a reasonable assurance that the students admitted would represent a genuine asset to the student body, both as student-citizens and as scholars.

The state has no obligation to admit out-of-state students. It wisely does so, however, as an expression of reciprocity for courtesies extended Oregon students attending college in other states, and in order to reap the advantages that able, competent young people from out-of-state can bring to the state. Admissions standards ought, therefore, to reflect this latter fact.

Tuition and Fees - Oregon Public Institutions

Scope and Definition

In common usage the word "tuition" is understood as the money paid by a student for general instruction, and "fee" is interpreted as an assessment for some special purpose. In the State System of Higher Education, tuition income is budgeted with unrestricted funds as a part of the over-all budget for instruction, research, and general purposes. A general laboratory fee, payment of which is mandatory, whether or not the student in question actually uses any of the laboratory equipment, is also budgeted as unrestricted income. Two other fees, a "building" fee and an "incidental" fee, are universally applicable to all students, although for budgeting purposes, income from these is restricted to special uses.[1]

Other special fees are charged to students for special services. For instance, there is a breakage fee at some institutions, which is returnable if there is no breakage, and there are fees paid by music students for practice rooms and private lessons, etc. These fees differ from the fees discussed in the preceding paragraph because they are not universally applicable.

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[1] Use of the building fee is restricted to capital construction projects. The incidental fee supports auxiliary student activities, such as the student health services, student union activities, athletics, and gym suit services.

For purposes of this study, discussion will be limited to tuition and fee charges applicable to all students as a condition of admittance. Special fees for special services will not be considered.

Nor will board and room and incidental student living costs be considered, although, for students who must live away from home in order to have access to post-high school educational opportunities, these costs may loom very large. We believe, however, that in considering the student financial aid program, as we shall in a later section of this chapter, the total costs of education to a student must be considered in conjunction with the resources of the student and his family in determining the extent of the student's financial need, if any.

Trends in Tuition Charges

State System In-State Tuition

Tuition and fees at state system institutions have shown marked increases during the past ten years (Table 9). For the most part, systemwide increases in fees have been assessed as a result of financial pressure, following a legislative session. Sometimes the suggestion for a tuition increase has been made by legislative committees which felt this to be the most desirable way to bridge the gap between educational needs and available resources; sometimes the State Board of Higher Education has had to make the difficult choice between inadequate financing and increased tuition.

TABLE 9

YEARLY UNDERGRADUATE TUITION AND FEES
INSTITUTIONS OF OREGON STATE SYSTEM OF HIGHER EDUCATION
(1955-56 and 1965-66)

	Yearly Undergraduate Tuition and Fees					
	In-State Students			Out-of-State & Foreign Students		
Institution	1955-56	1965-66[a]	Percent Increase (10 Years)	1955-56	1965-66[a]	Percent Increase (10 Years)
1	2	3	4	5	6	7
OSU, UO & PSC	$195	$330	69%	$405	$ 900	122%
OCE, SOC & EOC	150	294	96	240	534	123
UOMS-Medicine	534	705	32	792	1,113	41
UOMS-Nursing	150	342	128	270	612	127
UO Dental Sch.	519	705	36	777	1,113	43
OTI	285	330	16	375	690	84

[a] The amounts indicated for 1965-66 are also effective for the 1966-67 year.
Source: Office of Institutional Research, Oregon State System of Higher Education.

Other fees have been assessed by various institutions from time to time to meet special emergencies or to provide funds for some necessary project. An axiom of student charges seems to be that, once assessed, they are seldom if ever removed or reduced. The result is the tuition and fee schedule shown in Table 9.

Community College Tuition

Community colleges also vary widely in tuition and fees assessed to students. Current charges at the state-supported community colleges are listed in Table 10, page 50.

It seems apparent, from Table 10, that Community College boards, too, are torn between a desire to keep student charges low and a realization that additional income must be found. With resident yearly tuition and fees ranging from $165 to $303, it is difficult to discern any relationship between total costs and student fees.

Only one institution, Clatsop Community College, charges a higher in-district tuition than in-state charges at the regional four-year colleges, and here the differential is slight. Tuition at three community colleges is substantially lower than that charged at the three regional colleges (SOC, OCE, EOC).

TABLE 10

YEARLY TUITION AND FEES, OREGON COMMUNITY COLLEGES, 1966-67

Institution	Yearly Tuition and Fees: In-District Students Amt.	Rank	Out-of-District Students Amt.	Rank	Out-of-State Students Amt.	Rank
1	2	3	4	5	6	7
Clatsop	$303	1	$303	6	$454.50	4
Central Oregon	270	2	330	3	390	7
Salem	270	2	270	8	650	1
Southwestern	270	2	405	1	405	5
Umpqua (lower div)	270	2	375	2	525	3
Blue Mountain	255	6	330	3	390	7
Treasure Valley	240	7	300	7	405	5
Umpqua (voc-tech)	195	8	195	11	195	11
Mt. Hood	180	9	240	9	300	9
Portland	180	9	240	9	300	9
Lane	165	11	330	3	600	2

Source: Oregon community colleges.

Relationship of Tuition Levels to Operating Costs

Table 11, pp. 51 and 52, sets forth the relationship between tuition and fee charges to students in the state system institutions, and the per student operating costs within these institutions.

Operating costs are defined here as excluding summer session and extension program costs, as well as funds expended for land purchases, capital charges (charges covering the cost of buildings and major equipment), and auxiliary activities (i.e., student unions, student health services, dormitory operations, and athletics).

It will be observed in Table 11, that tuition and fee charges for resident undergraduate students in the six state system multi-purpose institutions represent a varying percentage of the per student operating costs in the several institutions. This is not surprising if one bears in mind that the operating costs for each institution represent an average cost for lower-division, upper-division, and graduate students, and bearing in mind, too, the wide range of institutional characteristics and conditions under which the several institutions operate. The State Board of Higher Education does not fix the tuition for individual institutions within the state system according to the operating costs. Its general policy has been, and is now, to charge the same resident undergraduate tuition and fee for the three largest multi-purpose institutions ($330 at UO, OSU, and PSC), and a slightly lower tuition at the three regional colleges ($294 at EOC, OCE, and SOC). It happens, therefore, that for 1964-65, tuition and fee charges, as a percentage of the per student

TABLE 11

TUITION AND FEES IN STATE SYSTEM INSTITUTIONS RELATED TO PER STUDENT OPERATING COSTS, 1957-58 TO 1964-65

(Full-time equivalent enrollments based on course load of 15 credit hours)

Institution	Total Unrestricted Funds*	3-Term Enroll-ment (FTE)	Operating Cost Per Student	Tuition and Fees			
				In-State Students		Out-of-State Students	
				Amt.	% of Cost	Amt.	% of Cost
1	2	3	4	5	6	7	8
U of O							
1957-58	$ 5,142,858	5,368	$ 958	$213	22.2%	$438	45.7%
1958-59	5,427,488	5,586	972	222	22.8	447	46.0
1959-60	6,084,982	6,085	1,000	255	25.5	510	51.0
1960-61	6,706,114	6,913	970	270	27.8	525	54.1
1961-62	7,993,026	8,249	969	270	27.9	570	58.8
1962-63	9,000,536	8,822	1,020	300	29.4	630	61.8
1963-64	9,661,331	8,934	1,081	330	30.5	900	83.3
1964-65	10,553,796	9,444	1,117	330	29.5	900	80.6
OSU							
1957-58	$ 7,274,540	7,388	$ 985	$213	21.6%	$438	44.5%
1958-59	7,473,426	7,507	996	222	22.3	447	44.9
1959-60	8,092,652	7,367	1,099	255	23.2	510	46.4
1960-61	8,382,477	7,654	1,095	270	24.7	525	47.9
1961-62	9,189,423	8,827	1,041	270	25.9	570	54.8
1962-63	10,201,516	9,659	1,056	300	28.4	630	59.7
1963-64	11,005,325	9,893	1,112	330	29.7	900	80.9
1964-65	12,267,676	9,984	1,229	330	26.9	900	73.2
PSC							
1957-58	$ 1,476,826	2,460	$ 600	$213	35.5%	$438	73.0%
1958-59	1,613,194	2,778	581	222	38.2	447	76.9
1959-60	1,990,085	2,939	677	255	37.7	510	75.3
1960-61	2,388,068	3,416	699	270	38.6	525	75.1
1961-62	2,958,352	4,387	674	270	40.1	570	84.6
1962-63	3,412,638	4,864	702	300	42.7	630	89.7
1963-64	4,187,285	5,532	757	330	43.6	900	118.9
1964-65	5,147,046	5,984	860	330	38.4	900	104.7
OCE							
1957-58	$ 775,131	838	$ 925	$177	19.1%	$282	30.5%
1958-59	833,502	899	927	186	20.1	291	31.4
1959-60	909,061	922	986	219	22.2	354	35.9
1960-61	1,031,317	1,046	986	234	23.7	369	37.4
1961-62	1,198,143	1,171	1,023	234	22.9	414	40.5
1962-63	1,332,436	1,270	1,049	264	25.2	474	45.2
1963-64	1,467,546	1,221	1,202	294	24.5	534	44.4
1964-65	1,468,449	1,502	978	294	30.1	534	54.6
SOC							
1957-58	$ 743,091	946	$ 786	$177	22.5%	$282	35.9%
1958-59	814,847	1,055	772	186	24.1	291	37.7
1959-60	924,388	1,198	772	219	28.4	354	45.9
1960-61	1,020,806	1,294	789	234	29.7	369	46.8
1961-62	1,155,856	1,556	743	234	31.5	414	55.7
1962-63	1,377,977	1,719	802	264	32.9	474	59.1
1963-64	1,598,797	1,898	842	294	34.9	534	63.4
1964-65	1,823,791	2,234	816	294	36.0	534	65.4

TABLE 11 - (Continued)

Institution	Total Unrestricted Funds*	3-Term Enrollment (FTE)	Operating Cost Per Student	Tuition and Fees: In-State Students Amt.	In-State Students % of Cost	Out-of-State Students Amt.	Out-of-State Students % of Cost
1	2	3	4	5	6	7	8
EOC							
1957-58	$ 652,231	635	$1,027	$177	17.2%	$282	27.5%
1958-59	656,309	707	928	186	20.0	291	31.4
1959-60	767,287	735	1,044	219	21.0	354	33.9
1960-61	831,303	816	1,019	234	23.0	369	36.2
1961-62	901,802	1,003	899	234	26.0	414	46.1
1962-63	1,015,565	1,103	921	264	28.7	474	51.5
1963-64	1,125,240	1,139	988	294	29.8	534	54.0
1964-65	1,141,531	1,135	1,006	294	29.2	534	53.1
OTI							
1960-61	$ 1,356,384	712	$1,905	$285	15.0%	$375	19.7%
1961-62	1,383,219	814	1,699	285	16.8	420	24.7
1962-63	1,571,587	795	1,977	300	15.2	480	24.3
1963-64	1,540,739	851	1,811	330	18.2	690	38.1
1964-65	1,768,478	954	1,854	330	17.8	690	37.2
UO Medical School							
Medicine							
1957-58	$ 1,484,919	329	$4,513	$564	12.5%	$837	18.5%
1958-59	1,482,196	326	4,547	570	12.5	843	18.5
1959-60	1,661,283	349	4,760	603	12.7	906	19.0
1960-61	1,809,830	339	5,339	618	11.6	921	17.3
1961-62	1,975,174	375	5,267	627	11.9	975	18.5
1962-63	2,125,265	364	5,839	657	11.3	1,035	17.7
1963-64	2,332,117	389	5,995	705	11.8	1,113	18.6
1964-65	2,449,589	415	5,903	705	11.9	1,113	18.9
Nursing Education							
1957-58	$ 186,582	254	$ 735	$168	22.9%	$303	41.2%
1958-59	174,526	268	651	174	26.7	309	47.5
1959-60	187,235	282	664	207	31.2	372	56.0
1960-61	220,864	318	695	255	36.7	420	60.4
1961-62	280,786	305	921	264	28.7	474	51.5
1962-63	288,256	311	927	294	31.7	534	57.6
1963-64	328,390	329	998	342	34.3	612	61.3
1964-65	356,411	325	1,097	342	31.2	612	55.8
UO Dental School							
1957-58	$ 787,388	335	$2,350	$567	24.1%	$840	35.7%
1958-59	823,828	326	2,527	573	22.7	846	33.5
1959-60	921,580	330	2,793	603	21.6	906	32.4
1960-61	978,825	348	2,813	618	22.0	921	32.7
1961-62	1,083,010	350	3,094	627	20.3	975	31.5
1962-63	1,149,444	355	3,238	657	20.3	1,035	32.0
1963-64	1,209,599	377	3,208	705	22.0	1,113	34.7
1964-65	1,316,761	385	3,420	705	20.6	1,113	32.5

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*All unrestricted institutional fund expenditures excluding summer session, extension, and land purchases, but including amounts of centralized activities prorated.

Source: Office of Institutional Research, Oregon State System of Higher Education.

operating costs, ranged from 38.4 percent at Portland State College to 26.9 percent at Oregon State University, and in the three regional institutions from 36.0 percent at SOC to 29.2 percent at EOC. Tuition at OTI ($330) was 17.8 percent of the per student operating costs.

State System Tuition for Out-of-State Students

Tuition for undergraduate out-of-state students attending institutions of the state system has tended to follow the national pattern,[1] namely, nonresident tuition and fees have tended to rise more than resident tuition and fees. Except for the University of Oregon School of Nursing, the percentage increase in tuition and fees from 1955-56 to 1965-66 has been higher for out-of-state students in the state system institutions than it has for in-state students (Table 9). The rationale behind the very substantial increase in nonresident tuition is that students from other states should pay the approximate costs of their instruction. It will be observed from Table 11 that in only one institution (PSC) did the undergraduate nonresident tuition exceed the reported per pupil operating costs. In the two universities, nonresident undergraduate tuition and fees ($900) was below the per student operating costs, shown in Table 11, and represented 73.2 percent of those costs at OSU, and 80.6 percent at the University of Oregon. However, since the per student operating costs, are an average for lower-division, upper-division, and graduate students, and since graduate education generally is substantially more expensive than undergraduate education. it is possible that, were the $900 undergraduate nonresident tuition and fee charge related to the per student operating costs for undergraduate students alone, the tuition and fee charge would equal the operating costs. Certainly, they would be seen to be nearer the operating costs than Table 11 indicates.

At the three regional colleges (EOC, OCE, and SOC), the $534 nonresident tuition and fee charge ranges from slightly over one-half of the per student operating costs at EOC and OCE (53.1 and 54.6 percent, respectively) to a little less than two-thirds of the per student operating costs at SOC (65.4 percent). Nonresident tuition at the three regional schools and at OTI was kept lower than at the three larger institutions of the state system because the State Board of Higher Education felt that the presence of students from other states was a necessary ingredient of the learning process for Oregon students, and that, in the smaller colleges, any greater increase in tuition and fee charges might prove a definite barrier to nonresident enrollments. It should be observed, in passing, that the State Board of Higher Education took action, in the summer of 1966, to raise nonresident tuition and fees at OTI to $795, effective with the 1967-68 school year, and to $900, effective 1968-69.

Graduate Students - State System Institutions (Other than UOMS and UODS)

At Oregon's public colleges and universities, it has been traditional to charge tuition and fees for all graduate students, in-state and out-of-state, at the undergraduate in-state rate, even though instructional costs at the graduate level are higher than at the undergraduate level. This subsidy to graduate students is designed to put Oregon institutions in a better competitive position vis-a-vis other institutions in the attraction of capable graduate students. A fuller discussion of graduate student tuition and fee charges is included in Chapter VI.

University of Oregon Medical and Dental Schools

The highest tuition in the state system is charged students at the University of Oregon Medical and Dental Schools ($705 for in-state students and $1,113 for out-of-state students). But the per student costs of education in these two schools is, also, the highest in the state system, as is to be anticipated, and hence, in 1964-65, the tuition at the medical school represented, for in-state students, 11.9 percent of the per student operating costs and, for the out-of-state students, 18.9 percent of the operating costs. Corresponding percentages for dental school students were 20.6 and 32.5.

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[1] Seymour E. Harris, Higher Education: Resources and Finance, New York, N. Y.: McGraw-Hill Book Company, Inc., 1962, p. 66.

In 1964-65 tuition for in-state students in the School of Nursing was $342 and for out-of-state students, $612. Per student operating costs in the nursing school were $1,097. Tuition and fee charges were thus 31.2 and 55.8 percent of the tuition and fees for in-state and out-of-state students, respectively.

It is apparent that in setting these tuition rates, consideration was given to the national shortage in these health fields, as well as to the high cost of instruction particularly in the medical field, and, to a somewhat lesser extent, in the dental field.

Comparison of Oregon Tuition Levels With the Ten Comparable States

Table 13, p. 55, shows tuition and fee rates for in-state and out-of-state students in effect in 1954-55 and 1965-66 at state universities in 11 comparable states. Among these states, Oregon has been and remained in 1965-66, a relatively high tuition state for in-state students (ranked four in 1965-66). As for tuition and fees for out-of-state students, Oregon ranked eighth in 1955-56 and fourth in 1965-66. It is interesting to note that the two Oregon universities were above the median (1965-66) in both resident and nonresident charges, as well as in amount of increase.

This pattern is repeated in tuition and fee rates at medical schools within the 11 comparable states. Here, Oregon in 1966-67, was second highest in tuition and fees for residents and fourth highest for nonresidents (Table 12 below).

TABLE 12

YEARLY TUITION AND FEES IN
PUBLICLY SUPPORTED MEDICAL SCHOOLS
IN SELECTED STATES, 1966-67

State	Yearly Tuition and Fees			
	In-State Students		Out-of-State Students	
	Amt.	Rank	Amt.	Rank
1	2	3	4	5
Michigan	750	1	1,500	1
Oregon	705	2	1,113	4
Colorado	700	3	1,100	5
Utah	660	4	1,050	6
Nebraska	650	5	1,300	2
Minnesota	550	6	1,200	3
Washington	525	7	870	11
Oklahoma	500	8	1,000	7
U. of California at San Francisco	495	9	970	8
U.C.L.A.	486	10	961	9
Kansas	475	11	925	10
Median	550		1,050	

Source: Medical School Admission Requirements, USA and Canada, 16th edition, 1965-66 (Evanston, Ill.: Assoc. of Am. Med. Colleges, 1965); 1966-67 catalogs, Nebraska and Oregon.

TABLE 13

YEARLY UNDERGRADUATE TUITION AND FEES AT STATE UNIVERSITIES IN OREGON AND IN TEN COMPARABLE STATES, 1954-55 and 1965-66

State	Yearly Undergraduate Tuition and Fees									
	In-State Students					Out-of-State Students				
	1954-55		1965-66		Amount of Increase	1954-55		1965-66		Amount of Increase
	Amt.	Rank	Amt.	Rank		Amt.	Rank	Amt.	Rank	
1	2	3	4	5	6	7	8	9	10	11
Utah	$199	1	$375	1	$176	$349	7	$ 690	8	$344
Michigan	180	2	280-310[a]	6	100-130[a]	430	2	900-960[a]	3	470-530[a]
Oregon	165	3	330	4	165	345	8	900	4	555
Minnesota	165	3	315	5	150	372	5	780	7	408
Washington	165	3	345	3	180	315	10	825	6	510
Colorado	164	6	358	2	194	470	1	1,106	1	636
Nebraska	160	7	264	8	104	320	9	600	10	280
Kansas	155	8	278	7	123	295	11	678	9	383
Oklahoma	132	9	210	11	78	372	5	540	11	168
California	84	10	243	9	159	384	3	1,043	2	659
Arizona	82	11	214	10	132	382	4	864	5	482
Median	164		280-310		159	372		825		482

[a]The lower figure is the tuition and fees for lower-division students; the higher figure for upper-division students.

Source: Office of Institutional Research, Oregon State System of Higher Education.

Tuition and Fees at Oregon Independent Institutions

The economics of rising costs has resulted in a more than doubling - in some institutions a tripling - of tuition and fees assessed by the independent colleges and universities over the past decade (1955-56 to 1965-66), as shown in Table 14 below. These institutions, operating as they do without state subsidy, do not distinguish between resident and nonresident students in the assessment of tuition and fees.

TABLE 14

YEARLY TUITION AND FEES - INDEPENDENT COLLEGES AND UNIVERSITIES
ACADEMIC YEARS, 1955-56 and 1965-66

Institution	Yearly Tuition and Fees				Increase	
	1955-56		1965-66			
	Amt.	Rank	Amt.	Rank	Percent	Rank
1	2	3	4	5	6	7
Reed	$720	1	$1,748	1	143%	5
Lewis and Clark	550	3	1,300	2	136	6
Pacific	580	2	1,180	3	103	10
Cascade	345	8	1,086	4	215	3
Willamette	490	5	1,075	5	119	8
U of Portland	510	4	1,066	6	109	9
George Fox	339	9	1,020	7	201	4
Linfield	480	6	900	8	88	11
Warner Pacific	237	11	785	9	231	2
Marylhurst	333	10	750	10	125	7
Mt. Angel	195	12	680	11	249	1
Multnomah (2-year)	406	7	406	12	0	12
Median	443		1,043		131	

Source: 1955-56 figures reported by independent institutions; 1965-66 figures from Mapping Your Education, 1965-66 Edition (Portland, Oregon: Abbott, Kerns & Bell Company, 1965).

Tuition Levels - A Discussion

It is our view that post-high school education should be available in Oregon on the basis of a "reasonable" tuition payment. Such tuition payment serves, we think, two purposes: (1) it represents an investment by the student in his own education, which we believe to be a useful evidence of his commitment, and (2) it represents a significant source of revenue in support of post-high school education.

We accept the premise that post-high school education is at one and the same time both a social necessity and, for the individual, the fulfillment of a personal desire. The corollary is, we think, that society must, in its own interest, insure that those who can profit therefrom have effective access to post-high school education, and that a "reasonable" financial token, in the form of a tuition payment, should reflect individual desire.

Considering the projected financial needs of post-high school education, we think it both inevitable and necessary that tuition payments carry a share of the financial load of post-high school education, but that such payments ought not to be permitted to become "excessive."

What is excessive and what is reasonable in tuition charges is a matter of definition. We have endeavored, in our recommendations which follow, to indicate, in a rough way, something in the way of a guide as to tuition costs, by relating them to the costs of instruction.

We acknowledge, though we cannot accept, the view held by some that post-high school education is essentially an expression of individual desire, and that it should, therefore, be financed solely by the individual receiving the most immediate benefits therefrom. Hence, our concept of a "reasonable" tuition payment is one that places tuition receipts in a subordinate role among the sources of support for public post-high school education in Oregon.

That the placing of tuition payments at a level inadequate to meet the costs of instruction is "an indiscriminate subsidy," in that it represents the same subsidy for wealthy and poor alike, we acknowledge. We are not, however, distressed at finding ourselves supporting an "indiscriminate" measure, in the sense that our proposed tuition policy is indiscriminate. We believe it to be justified by the social benefits flowing from it.

If it be urged that placing tuition payments at less than cost is "an unnecessary gift to young people of wealthy families and perhaps an inadequate gift to young people from poor families,"[1] we respond that the social benefits of education justify fully the subsidy for the wealthy, and that we propose, in this report, specific and direct financial aid to young people from poor families, for whom the proposed "reasonable" tuition would be a barrier to post-high school education and training opportunities.

To the view that students should meet all, or a substantial portion, of the costs of their post-high school instruction, because their education is likely to confer upon them special economic benefits, we reply that those in Oregon who have superior earning capacity, for whatever reason, are called upon to bear a larger share of the costs of government. Hence, to whatever extent a publicly subsidized post-high school education gives individuals a superior earning capacity, the state, through its graduated income tax, will tap that capacity. This seems to us a particularly valid view in Oregon, where the progressive income tax is such an important aspect of the state's fiscal base. We believe this a valid view, notwithstanding the fact that not all individuals educated in Oregon spend their adult lives in Oregon.

It is suggested by some that a rather substantial increase in tuition would be possible in public institutions without affecting significantly the total cost of higher education to the student, since tuition payments are a minor, not a major, portion of the costs of going to college, if one considers the total cost as including tuition, cost of books, supplies, room rent, board, travel, clothing, and incidentals.[2] And particularly so, if one includes, in the cost of attending college, the income foregone or lost by the student during the years he is in college. We acknowledge that tuition is not the primary cost of college attendance if one considers all of the costs suggested above. Having said this, we would emphasize our belief that tuition charges, raised to more than a "reasonable" level, nonetheless are likely to appear as a significant additional barrier to many students who would benefit from post-high school education and who, in society's best interests, should be encouraged to pursue post-high school education and training. This appears particularly true of the culturally deprived, even though scholarship grants are available.

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[1] John D. Millett, paraphrasing Dean B. A. Rogge of Wabash College. John D. Millett, "The Role of Student Charges," Financing Higher Education, 1960-70, ed. Dexter M. Keezer (New York: McGraw-Hill Book Company, Inc., 1959), p. 174.

[2] Seymour Harris, "Financing of Higher Education: Broad Issues," Financing Higher Education, 1960-70, ed. Dexter M. Keezer (New York: McGraw-Hill Book Company, Inc., 1959), p. 57.

In short, we find ourselves in agreement with the sentiments expressed by Chancellor Lieuallen, when, in support of a moderate tuition policy in the Oregon State System of Higher Education, he said of tuition:

> . . . The objective is to raise money, not to do the student (or his parents) some obscure favor. Raising tuition will not accomplish an educational objective which increased appropriation (in the case of public colleges and universities) or increased philanthropy (in the case of private colleges and universities) would not accomplish better.

The Interests of the Independent Colleges

The independent institutions tend to depend more heavily upon tuition than do the public institutions, both nationally and in Oregon. In Oregon, the median tuition in the independent colleges in 1965-66 was more than three times as great as the median tuition for in-state students in the public four-year institutions and 1.5 times as large as tuition charges to nonresidents at public institutions. Nationally, from time to time, concern has been expressed that, if the differential in the tuition charged in the independent and in the public institutions becomes too large, the independent institutions will suffer in the competition for students. It has been suggested in some quarters, therefore, that there are limits to the extent to which independent institutions can permit their tuition to climb without pricing themselves out of the market. Harris, speaking to this point, commented:

> . . . The relative enrollment capacities of private and public IHL /institutions of higher learning/ within an area - which is but one dimension in the structure of the market - imposes some restrictions on the range in which private /independent/ IHL in that area can set their tuition charges. That is to say, a private institution in a state whose public colleges and universities can accommodate four times as many students as can be handled by private institutions in the state, will be under greater pressure to prevent the differential between tuitions in public and private institutions from widening than will a private institution located in a state where public and private IHL divide the total enrollment capacity equally.[1]

In Oregon, interestingly enough, in 1965-66, of the students (resident and non-resident) enrolled in colleges and universities, approximately 20 percent were enrolled in the independent institutions. Harris, observing the fact, that in the West, a far larger proportion of the college students were enrolled in the public institutions than was true in the Northeast, noted, also, that the lower tuition rates of public institutions did not appear to have been an important factor in determining tuition in the independent institutions. He stated:

> One might expect that private institutions in the West would be forced to lower their prices to compete with the larger proportion of institutions supported by the taxpayer, but the ratio of tuition rates of private to public IHL in the West, despite this heavy competition, is nearly identical with that in the Northeast.[2]

In 1965-66, the median tuition of the independent colleges in Oregon was $1,043; in the state system multi-purpose institutions for in-state undergraduate students, $312; and in the community colleges (college transfer programs), $263.

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[1] Seymour Harris, Higher Education: Resources and Finance, (New York: McGraw-Hill Book Company, Inc., 1962), p. 91.

[2] Ibid., p. 48.

There is, we think, no reason to suspect that a policy calling for "reasonable" tuition in the public institutions of Oregon, such as we recommend, will have an adverse effect on the independent institutions in Oregon.

Selected Alternatives for Establishing Tuition Levels in Public Institutions

A number of alternative approaches to fixing tuition charges have been proposed over the years. Before coming to our recommendations concerning tuition policies, we review here selected of these alternatives.

1. On a Course-by-Course or Program-by-Program Basis.

   ". . . one simple idea can be discarded at once," said Harris, " - that tuition charges can be based on costs alone. . . . In a college of a famous university, faculty salaries charged to the college in relation to the fees received varied from 36 percent in a civilization course to 4,335 percent in Chinese and Japanese. Imagine charging on the basis of costs!"[1]

   Were cost accounting figures available on a program-by-program basis at the two Oregon universities, it is certain that variations in cost would be discovered from course to course and from program to program, although students at both these institutions pay the same tuition, regardless of the programs or courses they choose (excluding the medical, dental, and nursing programs of the University of Oregon, located in Portland).

   As a general policy, the establishment of tuition levels on a course-by-course or program-by-program basis would create serious administrative problems, aside from the social implications.

2. By Level of Instruction.

   An alternative would be to set tuition at a percentage of the average instructional cost at a given level of instruction (i.e., at the lower-division, upper-division, graduate, and graduate research levels). Lower-division costs are generally less than upper-division costs, and the latter are generally substantially less than graduate costs. Harris prints a table showing that, at an unnamed university in 1950, costs of instruction in arts and sciences were $134.10 at the lower division, $353.87 at the upper division, $873.53 at the graduate level, and $3,248.17 at the graduate research level.[2] The foregoing data, though outdated, are indicative of the range in costs within an institution. Such variations, if translated into tuition fees, would, in some institutions, make graduate study economically unfeasible for most graduate school aspirants, unless they were beneficiaries of substantial aid or were exempted from paying tuition fees.

3. As a Percentage of the Cost of Instruction of Each Institution.

   Another approach to the fixing of tuition rates would be to develop an average cost-per-student at each institution and set tuition rates at a percentage of that average cost. In Oregon, where we have long had a state system of higher education, the fixing of a separate tuition fee for each institution on the basis of average per student cost at each has not seemed wise. Rather, the State Board of Higher Education has grouped the multi-purpose institutions into two groups, as we have noted elsewhere, and has established tuition rates and fees for each of the groups without regard to possible variations within the groups in per student costs. This we think sound.

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[1] Ibid., p. 52.
[2] Ibid., p. 113.

4. By Groupings of Institutions.

It is a common practice in states to charge a single rate for tuition for all in-state university students, regardless of the student's program or his level (except for medical and dental schools), a slightly lower rate for state colleges, and a still lower rate (sometimes nothing at all) at community colleges. A higher rate is charged to out-of-state students. Oregon has followed the national custom in this respect.

5. By a Percentage of the Cost of Instruction on the Statewide Level.

Since the principal reason for assessing tuition is to help finance the costs of higher education, the level of tuition might conceivably be established in a state system, such as Oregon has, by relating it to the costs of education and defining it in terms of a percentage of the instructional costs of all of the four-year institutions in the state system. Or several tuition levels within the state system might be established by grouping the institutions within the state system and establishing for each group of institutions a tuition level fixed at some percentage of the instructional costs of the institutions in that grouping. Wherever institutions within a state system are thus grouped and a common tuition and fee rate is established for the group of institutions, it is to be expected that there will be some variation among the institutions in the percentage that tuition and fees are of the instructional per-student operating costs. This is the case in the Oregon state system where two groupings of institutions form the basis for establishing tuition and fee rates for the multi-purpose institutions (UO, OSU, PSC; EOC, OCE, SOC).

Tuition Recommendations

1. Public post-high school education and training opportunities should be made available on the basis of a "reasonable" tuition to all students who can profit therefrom.

Three considerations prompt the recommendation that tuition be charged but that it be kept at a reasonable level: (a) society must, in its own interests, insure that those who can profit from post-high school education and training be encouraged to get that training; (b) payment of tuition is an acknowledgment that investment in post-high school education is an expression of individual desire - that education represents a promise of individual gain; (c) tuition payments constitute a significant source of revenue.

If the two former justifications seem inadequate, the latter is compelling, given the present and projected financial needs of post-high school education in Oregon.

2. Tuition and fees for in-state students in the publicly supported institutions should not exceed a minor proportion of the costs of education.

   a. Public community colleges - tuition and fees should not exceed approximately one-fifth of the per student operating costs.

   b. Public four-year colleges and universities - tuition and fees should not exceed approximately one-third of the per student operating costs.

The suggested differential in the proportion of costs to be borne by the student in the community colleges and the four-year institutions seems justified because community colleges are intended to be "opportunity" institutions. Hence, their tuition charges must be low.

3. Tuition for out-of-state undergraduate students enrolled in Oregon public institutions should not be in excess of approximately three-fourths of the per student operating costs.

This tuition policy seems justified both economically and educationally. The out-of-state student represents a significant economic asset to the state, to whose economic base he makes a significant contribution. Moreover, in some rare instances, out-of-state students can be absorbed into classes without a corresponding increase in costs to the institutions, thus reducing the overhead costs to the state. Finally, the attraction of out-of-state students into our institutions helps create a cosmopolitan student body, an important ally in our efforts to free the minds of our young people from a narrow and self-limiting provincialism.

4. Tuition and fees for out-of-state graduate students enrolled in Oregon public institutions should not exceed that charged Oregon residents.

What has been said in item 3 above concerning the advantages of attracting out-of-state undergraduate students into our institutions can be said with even greater conviction concerning the attraction of out-of-state graduate students. In addition, in the case of graduate students it should be noted that they make a significant contribution to institutional teaching and research programs. Though no dollar value is ever set upon these contributions, they are very substantial. Moreover, some of these able graduate students become attached to the state and remain as permanent residents, building up the intellectual level and capacity of the state - the state benefiting without having to pay for the pre-graduate school training of these students. A further discussion of tuition and fees for graduate out-of-state students is presented in Chapter VI.

5. Each institution, public and independent, should be encouraged to move toward a comprehensive tuition fee for all undergraduate in-state students at all levels and for all programs.

This policy is designed to provide the fullest freedom to youth in the selection of courses and the programs they elect. If adopted, it would avoid the placing of artificial barriers to free choice of programs by young people. This will inure to the benefit of society as a whole, which has need of all the diverse kinds of skills and competencies for which post-high school education prepares individuals. The best interests of society are served when there is a maximum opportunity for the fullest development of the capacities of its people.

If a policy of uniform tuition within an institution seems to work to the advantage of those who elect to enroll in a program more costly to maintain than some others, and which leads individuals into a more remunerative career than other, less costly programs might, we would only observe that such an individual will, over a lifetime, return to society far more in additional tax revenue than the differential in the cost of his preparation and the lesser cost of preparation for an occupation or profession offering less remuneration. In an economy of supply and demand, except where artificial barriers restrict the operation of these forces, there operate, over the long haul, inexorable forces which influence, if they do not control, the level of remuneration in various occupations and professions. Moreover, a progressive income tax such as characterizes Oregon's tax structure extracts for public consumption an increasing proportion of the income of the economically favored, returning by this means another social good from private gain.

6. Tuition policies should be regarded as being integrally related to policies governing student financial aid.

A reasonable tuition charge for post-high school education and training opportunities is both philosophically defensible and economically necessary. But its philosophical defense rests, in large measure, upon the assumption that student financial aid will be made readily available to those for whom a reasonable tuition charge would be a barrier to post-high school education and training.

Student Financial Aid Programs

High cost to the student is one of the most effective barriers to post-high school education. Steps taken to reduce this barrier have generally taken these forms:

1. The maintenance of tuition in the public institutions at a reasonable level commensurate with the concept of post-high school education as a wise investment for society. (Discussed in an earlier section of this chapter, pp. 56-58.)

2. The placing of public post-high school institutions in as close proximity to potential clientele in the state as efficiency of administration and organization will permit. (Discussed in Chapter V.)

3. The development of effective student financial aid programs to assist students who cannot, without such aid, avail themselves of post-high school opportunities. It is to this subject that we devote this section of the report.

As a generalization, it can be said that student financial aid programs in the United States are more chaotic than carefully planned. The following comment, made, in 1962, at the First College Scholarship Colloquium, has lost none of its validity in the intervening years:

> It is hardly an exaggeration to say that in this country we have chaos in the student aid field. We certainly have no rational, comprehensive, national system or plan or policy. We have hundreds of individual college student aid programs. A relatively small number of richer colleges control a large part of the total college financial aid resources, and the great majority of colleges manage with grossly inadequate resources and programs, financed all too often out of tuition income which is badly needed for faculty salaries and other educational costs. . . . The distribution of institutional student aid resources bears no reasonable relationship to national, student, or institutional needs, and this serious imbalance is not corrected by student aid programs outside the colleges. In fact, these non-college programs probably worsen the situation. The rich get richer and the poor get poorer.[1] /Emphasis added./

It will be our purpose in this section of the post-high school report to: (1) review the extent of the student financial aid in selected states, (2) review the present student financial aid opportunities in Oregon, (3) suggest some basic points of view - some guidelines - that hopefully will in Oregon permit us to take positive steps toward the development of an integrated program of student financial aid, and (4) suggest some recommendations for the improvement of Oregon's financial aid programs.

Student Financial Aid Programs in Selected States

The College Entrance Examination Board observes in a recent report, from which we have borrowed extensively in the next few pages, that in the decade 1955-65 the interest of the states in the provision of financial aid to students has undergone a marked transformation.

> Prior to 1955 most of the activities of the states were directed toward the special problems of small segments of the college-going population - Indians, nurses, doctors, war orphans, etc. The past decade, however, has been characterized by a great expansion of effort to include all the

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[1] Wilbur J. Bender, "Our Student Aid Patchwork Needs Drastic Revision," Student Financial Aid and National Purpose (Princeton, N. J.: College Entrance Examination Board, 1962), p. 92.

> academically qualified and needy students in the state. Various agencies, as they made long-range plans for higher education, became very interested in the efforts of the states in this regard.[1]

Something of the broad outlines of state student financial aid can be seen in the results of the College Scholarship Service study made in the fall of 1965. In August, 1965, the College Scholarship Service distributed a questionnaire to the chief education officer in each of the fifty states and in the District of Columbia, requesting information about "those student financial aid programs established and maintained through direct appropriation of state funds," for the fiscal year beginning July 1, 1965, and ending June 30, 1966. Information was requested as to both gift and loan assistance programs, administrative arrangements of the programs, and the restrictions placed upon the recipients in respect to college choice. The preliminary report of the College Scholarship Service was based upon the returns from 44 of the 50 states and the District of Columbia.

Scholarship and Other Gift Assistance Programs in 44 States

The states were asked to include all scholarships and fellowships (cash awards paid to students for which no immediate or subsequent service is expected or required), grants-in-aid and service grants (cash awards paid to students for which immediate or subsequent service is expected or required), tuition remissions (funds paid to institutions specifically for the purpose of reducing tuition or other expenses of students identified by the state or by the institution), veterans and war orphans' awards, and any other programs of gift assistance made available by state appropriations.

As a result of the study, the College Scholarship Service reported that:

> As of October 20, 1965:
>
> 31 states reported programs in operation for 1965-66.
>
> 1 state reported a new program authorized for 1966-67.
>
> 12 states reported no program in operation or authorized.
>
> The 31 states which submitted reports showing programs in operation for the current fiscal year appropriated $105.2 million for scholarships and other programs of gift assistance. This included 24 states with scholarship and fellowship programs ($90.4 million), 9 states with grants-in-aid and service grant programs ($4.2 million), 16 states with tuition remission programs ($5.6 million), 13 states with veterans and war orphan award programs ($3.8 million), and 4 states with other programs ($1.1 million, primarily for the Western Interstate Commission for Higher Education).[2]

The College Scholarship Service indicates that the majority of these programs are administered directly by an agency of the state government. "Eleven states reported that funds are administered in part by the institutions of higher education, but only $3.6 million of the total was so administered."[3]

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[1] W. D. Van Dusen, State Appropriations for Student Financial Aid 1965-66, Preliminary Report (New York City: College Scholarship Service, College Entrance Examination Board, 1965), p. 1.

[2] Ibid., p. 2.

[3] Ibid.,

Sixteen states reported that at least some scholarship and gift assistance could be awarded to students attending institutions of higher education in another state.

Seventeen states reported that their programs will permit the recipients of scholarships and gift assistance to attend independent institutions of higher education. The College Scholarship Service report states: "Almost half of the total amount available in 1965-66 ($52.3 million) will be used by students at private institutions."[1]

Loan and Loan Guarantee Programs

The foregoing report stated that, as of October 20, 1965:

21 states reported loan programs in operation for 1965-66.

21 states reported no loan programs in operation or authorized.

The report indicates further, as follows:

1. "The 21 states which submitted reports indicating programs in operation for the current fiscal year appropriated $33.6 million for loan and loan guarantee programs. This included four states making direct loans to students ($776 thousand), 12 states with loan guarantee programs ($21.1 million, with Michigan having a program in operation but making no appropriation for the current fiscal year), 9 states appropriating funds for federal loan matching monies ($1.2 million), one state appropriating funds for the subsidization of interest on student loans ($10.5 million), and one state appropriating funds for United Student Aid Fund matching programs."[2]
2. "The 12 states with guarantee loan programs . . . estimate that students will borrow $84 million during the current fiscal year."[3]
3. "The four states . . . which make direct loans to students expect that $.8 million will be disbursed this year."[4]
4. "*As with scholarship and gift assistance programs, the majority of the loan and loan guarantee programs are administered by an agency of the state government*. Only five states . . . indicated that the administration of their program was carried out by United Student Aid Fund, Inc. Only in Wyoming was any state appropriation reported for United Student Aid Fund matching funds."[5] [Emphasis added.]
5. "Only one state (Virginia) specified that loans could not be made to students attending private institutions, although several other states do not presently have available any funds for students at private institutions."[6]

Detailed Description of Selected State Scholarship Programs

A more detailed description of the state scholarship programs in selected states (New York, Illinois, California, and Pennsylvania) is given in the Appendix.

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[1] *Ibid.*
[2] *Ibid.*, p. 3.
[3] *Ibid.*
[4] *Ibid.*
[5] *Ibid.*
[6] *Ibid.*

Student Financial Aid Available in Oregon - 1965

Oregon's student financial aid programs represent a patchwork. Built up over the years, they exhibit shortcomings similar to those in numerous other states.

In Oregon, student financial aid is available from a variety of sources and in a variety of forms. The sources include: (1) State Scholarship Commission, (2) institutional sources, (3) federal programs, (4) a multitude of small and large private programs and foundations. In form, aid includes: (1) grants, (2) loans, (3) work opportunities. The first three of the foregoing sources will be discussed in this section of the report. No reliable information is available as to the aid programs in Oregon supported by private programs and the foundations.

State Scholarship Commission Program

The State Scholarship Commission was created by legislative enactment in 1959. It consists of five members, appointed by the governor and confirmed by the Senate for four-year terms. Under the law, one member of the commission must be a representative of the State Board of Higher Education, one a representative of the State Board of Education, and the remainder chosen at large from the state. The commission is assigned the following duties:

1. To award to qualified persons any scholarships placed under the jurisdiction of the commission.
2. To determine qualifications of persons to receive and retain scholarships.
3. To maintain reports and records on persons applying for and receiving scholarships from the commission.
4. To cancel a scholarship if the recipient of the scholarship fails to maintain the standards established for the award of that scholarship.
5. To recommend to the legislative assembly, at least once every biennium, matters relating to the establishment, administration, modification, transfer, reduction, or cancellation of scholarships.
6. To encourage the establishment of scholarships by private agencies.

Its powers include:

1. To negotiate for the establishment of scholarships with any private or governmental agency or source.
2. To receive gifts of any type, including gifts of stock and real property, for the purpose of establishing, continuing, and increasing scholarships
3. To administer any scholarship submitted to the jurisdiction of the commission. (Except as provided by the terms of the scholarship, scholarships are not required to be administered by the commission.)

Student Aid Programs Administered by the State Scholarship Commission

The Scholarship Commission administers the awarding of the grant and scholarship awards shown in Table 15, p. 66. We shall discuss here, briefly, the nature of these financial aid programs in the order in which they appear in the table.

One-year state tuition and partial fee remission scholarships. The 1935 Legislative Assembly authorized each of the state-supported institutions of higher education to

TABLE 15

STUDENT FINANCIAL AID PROGRAMS
ADMINISTERED BY THE STATE SCHOLARSHIP COMMISSION, 1965-66

Name of Award 1	Annual Number of Awards 2	Number of Years 3	Amount 4	Eligibility 5
One-year tuition and partial fee remission scholarship	2½ percent of enrollment in state system institutions (50 percent are granted to freshmen - 50 percent to remaining three classes) (1100-1250 awards)	1[a]	$189 -EOC,OCE,SOC 231-OTI 234-UO,OSU,PSC	Residents of Oregon in state system institutions
One-year elementary full tuition and fee remission scholarship	10 percent of enrollment in elementary education OCE,SOC,EOC (325-350)	1[a]	$294	Residents of Oregon in state system institutions
Four-year tuition and partial fee remission scholarship	One for every county and legislative district in Oregon (126 awards)	4	$189-EOC,OCE,SOC 231-OTI 234-UO,OSU,PSC	Residents of Oregon in state system institutions
Four-year cash award	Based on legislative appropriation (usually 150-200 awards)	4	$100-500 (depending on need)	Residents of Oregon in public and independent four-year degree granting institutions in Oregon
One-year nonresident fee remission scholarship	Based on 10 percent of all nonresident fees paid (550-600 awards)	1	$100-570 (maximum amount needed to reduce tuition and fees to resident level)	Students from other states attending state system institutions
One-year fee remission for foreign students	Determined by estimates from state system(approximately ½ UO and OSU foreign students receive these awards)(400-450 awards)	1[a]	$90-810 (does not include restricted fees)[1]	Students from other countries attending state system institutions

[a] One-year awards are given 50 percent to freshmen and 50 percent to the other three classes - sophomore, junior, and senior. One-year awards are renewable, but competition for them among sophomores, juniors, and seniors is rigorous since 50 percent of the total awards were available to freshmen and 50 percent must serve the remaining three classes.

[1] Restricted fees: building fee, health service fee, and student activities fee.

Source: Oregon State Scholarship Commission.

award partial tuition and fee remission scholarships, annually, equal in number to two percent of the total enrollment of the preceding year. Subsequently, the law was amended (1959) to increase the number of scholarships from two to two-and-one-half percent of the enrollment of the preceding year. Administration of these scholarships was placed in the hands of the Scholarship Commission. Grants are made only to residents of Oregon.

One-year state elementary education full tuition and fee remission scholarships. These scholarships were authorized by the 1949 Legislative Assembly at a time when the state was anxious to encourage students to enter elementary teacher preparation programs in the regional schools. Awarded only to Oregon residents, they are available to 10 percent of the enrollments in elementary education at EOC, OCE, and SOC.

Four-year state tuition and partial fee remission scholarships. This program is the extension of a program begun before 1900 when there was established, in Oregon, what was known as the legislative district and county scholarship program for students at Oregon State Agricultural College (now Oregon State University). Around 1900, this scholarship program fell into disuse, though the authorization for the program remained in the law. In 1957, the matter was brought to the attention of the legislative assembly, with the result that the law was amended so as to make the provisions of the program applicable to students at all institutions of the Oregon State System of Higher Education. Today it provides, yearly, 126 four-year scholarships to students in the state system institutions, the stipends being sufficient to meet the tuition and partial fee costs of the recipients.

Four-year state cash awards. This program was created by a 1961 legislative enactment. The number of awards is based upon the size of the biennial legislative appropriation for this purpose, and has ranged from 150 to 200.

Awards are made to students attending any public or independent four-year degree-granting institution in Oregon. In 1964-65, 27 percent of these awards went to students attending independent institutions; 73 percent to students in public institutions. Although all of the award money is awarded each year, it is not all used each year, for some students, having received an award, later drop out in the middle of the year. The awards have been limited to a maximum of $500 per year for four years, but they may be less if the need is less.

One-year state nonresident fee remission scholarship. This fee remission program developed out of action taken by the State Board of Higher Education in 1963 to raise tuition and fees charged nonresident students in the state system institutions. Because of the very marked increase in tuition and fees for nonresident students (from $630 to $900 at UO, OSU, and PSC), it was feared that students who had committed their careers to Oregon institutions prior to the increase would be placed in a very difficult financial position. Both educators and legislators recognized that the presence of students from other states created a desirable and necessary student body diversity and that the fee increase could well jeopardize this diversity. The legislature, therefore, authorized the State Scholarship Commission to grant nonresident fee remission awards to students enrolled in state system institutions. These awards are based on need, and generally do not exceed an amount equal to the difference between resident and nonresident tuition. The funds for these awards are realized by setting aside 10 percent of all nonresident fees. At this same time, the law authorizing nonresident fee waivers to students from Alaska and Hawaii was rescinded.

One-year state fee remission for foreign students. These fee remissions do not include remission of restricted fees (i.e., building fee, health service fee, student activities fee). In the past, approximately one-half of the foreign students at the U of O and OSU have received these fee remissions.

State Scholarship Commission Expenditures for Scholarships, 1964-65

Total State Scholarship Commission expenditures for scholarships for 1964-65 are shown in Table 16, p. 69, categorized as to: (1) Oregon residents, (2) nonresident students, and (3) foreign students. Oregon residents received $590,084 in state scholarships; nonresident and foreign students, together, received a total of $475,453. A total of 2,273 resident students (5.8 percent of the Oregon resident students at state system and four-year independent colleges and universities) and 1,010 nonresident and foreign students (23.4 percent of all nonresident and foreign students at system institutions) received scholarships. The average scholarship received by resident students was $259.60; for nonresident and foreign students, $470.74. The larger awards to nonresident and foreign students reflect the higher tuition and fee charges made to nonresident and foreign students.

State Scholarship Commission programs for residents. Table 17, p. 70, shows the State Scholarship Commission program for residents only, by kind of award. Of the total of $590,084, $31,533 was awarded to students in the independent colleges. The average public institutions award was $255, the average independent college or university award, $380.

Considering the total state scholarships (fee remission and cash) going to students in the independent and the public institutions, it is observed that 1.6 percent of the four-year independent college Oregon resident enrollment received state awards, compared with 6.7 percent of the state system Oregon resident enrollment receiving state scholarships.

Considering only the cash awards (students in the independent colleges are not eligible for the fee remission scholarships), it is seen that a greater proportion of Oregon resident students in the independent institutions received aid than in the system institutions (1.6 percent in the independent, .97 percent in system institutions).

State Appropriations for National Defense Student Loan Program

It should be noted here that, at one time, the State Scholarship Commission administered state appropriations for the national defense student loan program. But, in 1965, the legislative assembly, at the request of the Scholarship Commission and the State Board of Higher Education, transferred the administrative responsibility for state appropriations for institutional capital contributions for state system institutions participating in the national defense student loan fund from the State Scholarship Commission to the State Board of Higher Education. At the same time, the law was broadened so that such funds could also be used by these institutions to participate in the Nurses Training Act of 1964, the Health Professional Assistance Act of 1963, and other student loan programs which might be enacted by Congress in the future.

Table 18, p. 71, shows the amount of the institutional capital contribution for the federal student loan programs supplied for the institutions of the state system by the state.

The loan funds shown in Table 18, generated by the state funds, are available on the basis of a strict needs test to students in the state system institutions. None of the loaning capacity generated by state funds is available to the students of the independent colleges, community colleges, or proprietary schools.

Some measure of the need and the demand for loan funds is indicated by the fact that despite the stringent needs test governing the loan fund, there was, in each of these

TABLE 16

SUMMARY OF STATE SCHOLARSHIPS HELD BY STUDENTS (RESIDENT, NONRESIDENT, AND FOREIGN) FOR THE YEAR 1964-65, BY INSTITUTION, NUMBER, AND COST AT THE INSTITUTIONS INDICATED

College or University	Resident		Nonresident		Foreign		Total	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	2	3	4	5	6	7	8	9
University of Oregon	550	$138,441	262	$107,917	232	$126,102	1,044	$372,460
U of O Dental School	14	7,651	2	456	2	1,980	18	10,087
U of O Medical School	11	5,940	3	732	2	2,010	16	8,682
U of O Nursing School	17	4,608	9	1,842			26	6,450
Oregon State University	617	163,349	257	110,075	153	93,942	1,027	367,366
Portland State College	369	88,123	10	3,070	19	10,830	398	102,023
Oregon College of Education	237	61,739	9	1,267	1	98	247	63,104
Eastern Oregon College	131	32,284	2	858	12	4,576	145	37,718
Southern Oregon College	215	49,794	10	1,880	12	4,632	237	56,306
Oregon Technical Institute	29	6,622	10	1,610	3	1,576	42	9,808
Independent Colleges	83	31,533					83	31,533
TOTALS	2,273	$590,084	574	$229,707	436	$245,746	3,283	$1,065,537

Source: Oregon State Scholarship Commission.

TABLE 17

SUMMARY OF SCHOLARSHIPS HELD BY OREGON STUDENTS FOR THE YEAR 1964-65, BY INSTITUTION, KIND OF SCHOLARSHIP, NUMBER, AND COST

(Exclusive of fee remission scholarships for nonresident and foreign students)

College or University	Cash			District and County			2½% Enrollment Remission Scholarships			10% Elementary Enrollment Scholarships		
	No.	Per Student	Total Amount	No.	Per Student	Total Amount	No.	Per Student	Total Amount	No.	Per Student	Total Amount
1	2	3	4	5	6	7	8	9	10	11	12	13
University of Oregon	100	-	$33,765	100	$234	$21,840	350	$234	$82,836	-	-	-
U of O Dental School	2	-	667	1	582	582	11	582	6,402	-	-	-
U of O Medical School	1	-	333	-	-	-	10	597	5,607	-	-	-
U of O Nursing School	5	-	1,800	2	234	468	10	234	2,340	-	-	-
Oregon State University	160	-	58,283	139	234	31,590	318	234	73,476	-	-	-
Portland State College	30	-	9,967	26	234	5,928	313	234	72,228	-	-	-
Oregon College of Education	15	-	5,333	18	189	3,339	64	189	11,907	140	$294	$41,160
Eastern Oregon College	9	-	2,667	5	189	882	46	189	8,253	71	294	20,482
Southern Oregon College	8	-	2,033	7	189	1,134	85	189	14,679	115	294	31,948
Oregon Technical Institute	-	-	-	2	231	385	27	231	6,237	-	-	-
Independent Colleges	83	-	31,533	-	-	-	-	-	-	-	-	-
TOTALS	413	-	$146,381	300	-	$66,148	1,234	-	$283,965	326	-	$93,590

Grant Total: Awards: 2,273
Amount: $590,084

Source: Oregon State Scholarship Commission years, more demand from students in the state system institutions who could meet the needs test than there were funds available in the loan fund.

TABLE 18

FUNDS MADE AVAILABLE BY THE STATE TO STATE SYSTEM INSTITUTIONS AS INSTITUTIONAL CAPITAL CONTRIBUTIONS FOR NATIONAL DEFENSE STUDENT LOAN PROGRAM AND OTHER FEDERAL STUDENT LOAN PROGRAMS

Year	State Funds for National Defense Student Loan Program		Loan Funds Generated from State Funds Biennially
	Annual Amount	Biennial Amount	
1	2	3	4
1961-62	$ 68,589		
1962-63	81,411		
1961-1963		$150,000	$1,500,000
1963-64	110,371		
1964-65	137,641		
1963-1965		248,012	2,480,120
1965-66	212,773		
1966-67	232,073		
1965-1967		444,846	4,448,460

Source: Oregon State Scholarship Commission and Oregon State System of Higher Education.

A number of concerns trouble those familiar with the loan fund program:

1. A concern that students may be permitted, if not encouraged, to borrow too much in pursuit of their college education, thus indenturing themselves for overly long periods.

2. A concern arising out of the difficulties of administering the loan collection program, stemming from the attitudes some students exhibit toward their responsibilities to repay the loans promptly in accordance with their agreements.

3. A concern over the shortage of staff to do the necessary counseling and related student personnel work required in the management of an effective student financial aid program, including a loan fund program.

State Land Board Loan Fund

It should be noted that the 1965 Legislative Assembly provided by law (ORS 348.040 to 348.080) for the lending of State Land Board monies to Oregon students seeking post-high school education in a "four-year, non-profit, generally accredited institution of higher education; accredited public or private community college or education center, or one recognized by a state educational agency; vocational school that is approved by the Superintendent of Public Instruction; or institution which is, in the opinion of the State Scholarship Commission, comparable to such institutions, colleges, centers or schools." The law stipulated that these loans should not exceed $1,000 in a single academic year, or a total of $4,000 to an undergraduate student, nor, in the case of the graduate or professional student, should they exceed $2,000 in a single academic year or a total of $10,000. There was to be a five percent interest charge on the loans from the date of the loan, but no payments on the principal were to be required until the six months after the student's graduation or other termination of his education. To the present, the foregoing law has not been implemented.

Other State Aid to Students

In addition to the foregoing state funds, there are other state funds available to assist in the educational programs of persons with special problems, such as the blind (through the Commission for the Blind) and those in need of vocational rehabilitation (through the Vocational Rehabilitation Section of the State Department of Education).

Institutional Resources

Institutional funds for student financial aid derive from the following sources: (1) endowments, (2) state funds, including state scholarships, (3) federal funds, (4) private gifts and grants, and (5) other, such as state and federal vocational rehabilitation programs.

Each of the post-high school agencies or institutions dealt with in this report (state system institutions, independent colleges and universities, community colleges, and proprietary schools) has some form of student financial aid, though the amounts and the kinds vary among the institutions and among the types of institutions. We present in Table 20, p. 73, relevant information concerning the number of students given financial aid in 1964-65 and the amount of aid given in the form of grants, loans, and student employment, by state system institutions, independent colleges, and community colleges. Comparable information was not available for the proprietary schools.

In Table 19, below, we present information concerning the number and the dollar amount of grants and loans and the extent of the employment aid given students in the state system institutions in 1955-56 and 1964-65 and the percentage increase between those years.

TABLE 19

GRANTS, LOANS, AND EMPLOYMENT FOR UNDERGRADUATE STUDENTS
IN INSTITUTIONS OF THE OREGON STATE SYSTEM OF HIGHER EDUCATION
(EXCEPT THE UNIVERSITY OF OREGON MEDICAL SCHOOL), 1955-56 and 1964-65

	1955-56		1964-65		Percent Increase	
	Number	Amount	Number	Amount	Number	Amount
1	2	3	4	5	6	7
Enrollment[1]	15,253	-	31,365	-	106%	-
Grants	1,969	$ 440,307	6,826	$2,618,027	247	495%
Loans	1,826	169,137	6,463	2,129,600	254	1,159
Employment	2,003	503,291	7,278	1,982,174	263	294
Total		$1,112,735		$6,729,801		505%

[1] Fall head count, undergraduate enrollments excluding Medical School.
Source: State Scholarship Commission.

It will be observed that the percentage increase in the number of: (1) grants, (2) loans, and (3) employment opportunities afforded students, has been of the same magnitude (247, 254, and 263, respectively). But in the percentage increase in the amount available to students, loans show the largest percentage increase (1,159 percent) compared with grants (495 percent) and employment (294 percent).

When one relates the percentage increase in FTE enrollment in the state system institutions from 1955-56 to 1964-65 (106 percent) to the increase in dollar amount of student financial aid (505 percent), it would appear that available student

TABLE 20

GRANTS (GIFT AID), LOANS, AND EMPLOYMENT (HANDLED THROUGH CAMPUS EMPLOYMENT OFFICES) FOR UNDERGRADUATE STUDENTS ENROLLED IN STATE SYSTEM INSTITUTIONS, INDEPENDENT COLLEGES, AND COMMUNITY COLLEGES IN OREGON, 1964-65*

	Average Annual FTE of Students	Number	Amount	Average Amount
1	2	3	4	5
Institutions of the Oregon State System of Higher Education:	32,362			
Grants		6,826	$2,618,027	$384
Loans		6,463	2,129,600	329
Employment		7,278	1,982,174	272
Sub-total			$6,729,801	
Independent Colleges:	8,672			
Grants		2,235	$1,278,012	572
Loans		1,396	692,938	496
Employment		2,864	581,922	203
Sub-total			$2,552,872	
Community Colleges:	4,846			
Grants		364	$ 69,632	191
Loans		117	50,241	429
Employment (not Reported)				
Sub-total			$ 119,873	
Total FTE	45,880			
Total Grants		9,425	$3,965,671	421
Total Loans		7,976	2,872,779	360
Total Employment		10,142	2,564,096	253
Total Aid			$9,402,546	

*FTE figures include undergraduate and graduate students in state system institutions and the independent colleges and universities. Independent college and university figures are for the ten institutions participating in the portion of the study (see footnote 1, p. 74). Community college figures are for the nine institutions in operation during 1964-65. The table reports aid from various sources including institutional, state, federal, private gift and loan, and endowment funds.

Source: State Scholarship Commission, State System of Higher Education; independent colleges and universities, and Division of Community Colleges, State Department of Education.

financial aid in the state system institutions has outrun the increase in FTE student enrollment almost five times over. The dollar value of grants, loans, and employment aid increased from $1,112,735 in 1955-56 to $6,729,801 in 1964-65. However, during the same period, increases in tuition and fees, room and board charges, and costs of books and supplies raised the average annual student budget from an estimated $1,000 in 1955-56 to $1,500 in 1964-65, a 50 percent increase. Moreover, of the total of $6,729,801 in 1964-65 provided in financial aid for state system undergraduate students in 1964-65, $2,129,600, nearly one-third, was in the form of loans, representing, actually, a deferred payment plan by which a student pays his own way.

Table 21 shows the same information as Table 19, p. 72, but for ten independent colleges and universities.[1] Table 22, shows grant aid available at nine of these institutions (Pacific omitted) by source.

TABLE 21

GRANTS, LOANS, AND EMPLOYMENT FOR UNDERGRADUATE STUDENTS AT TEN INDEPENDENT COLLEGES AND UNIVERSITIES 1955-56 AND 1964-65

	1955-56		1964-65		Percent Increase	
	Number	Amount	Number	Amount	Number	Amount
1	2	3	4	5	6	7
FTE Enrollments	5,888	-	8,672	-	47.3%	-
Grants[1]	415	$223,857	2,235	$1,278,012	438.6	470.9%
Loans	256	64,293	1,396	692,938	445.3	977.8
Employment[1]	1,219	212,090	2,864	581,922	134.9	174.4
Total		$500,240		$2,552,872		410.3%

[1] The figures here do not include the new grant program under the Higher Education Act of 1965, nor the Federal Work-Study Program made available during 1964-65.

TABLE 22

GRANTS TO UNDERGRADUATE STUDENTS AT NINE INDEPENDENT COLLEGES AND UNIVERSITIES 1964-65 BY SOURCE OF FUNDS

Source of Funds	Number of Grants	Total Amount Awarded	Percent Source Is of Total	
			Number	Amount
1	2	3	4	5
Endowment	389	$140,667	17%	12%
State Cash Awards	75	27,249	3	2
Private Gifts and Grants	994	496,583	44	41
Other[1]	819	540,347	36	45
Total	2,277	$1,204,846	100%	100%

[1] Vocational Rehabilitation and Commission for the Blind funds; current income, operational, and other funds of the institutions.
Source for Tables 21 and 22: Independent colleges and universities.

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[1] George Fox, Lewis and Clark, Linfield, Marylhurst, Mt. Angel, Pacific, Reed, University of Portland, Warner Pacific (1964-65 figures only), Willamette.

Federal Sources of Student Financial Aid

Before coming to a brief discussion of the specific kinds of federal student financial aid available, it is well to observe that: (1) the new federal programs are directed toward the economically and culturally disadvantaged groups who need assistance if they are to seek educational and training opportunities, and (2) the federal funds are designed to supplement existing sources of aid, not to replace them.

We turn now to a brief consideration of the various types of federal student financial assistance.

National Defense Student Loan (NDSL) Program. The national defense student loan (NDSL) program is the largest and most attractive student loan program available. The student demand has, for each year since the inception of the program (1959), exceeded the supply of loan funds. Its special features provide that:

1. Undergraduate students may borrow a maximum of $1,000 a year for five years and graduate students may borrow a maximum of $2,500 a year, the total loan over the undergraduate and graduate years not to exceed $10,000.

2. The repayment period begins 9 months after the date on which the borrower ceases to carry at least half the normal full-time academic work load, and may extend over ten years. Interest, at the rate of 3 percent per annum, begins to accrue at the commencement of the repayment period.

3. Ten percent of the loan plus the interest for that year (up to a maximum of 50 percent) is forgiven each year that the borrower teaches in a public or nonprofit elementary or secondary school or institution of higher education; 15 percent of the loan plus interest (up to a total of 100 percent) is forgiven for each year the borrower teaches in a school eligible for federal assistance because of a high concentration of low-income families or as designated by the U. S. Commissioner of Education.

4. Loans may be made only to students who can demonstrate financial need.

An effort was made by the President early in 1966 to curtail drastically this loan program in its present form. It was proposed to transfer to private lenders responsibility for providing loan funds, with the federal government and/or states insuring the loans and the federal government providing a complete interest subsidy while the student is in school and a partial interest subsidy while the loan is being repaid. So strong was the support for the national defense student loan (NDSL) program, however, that the program was continued in the budget at the level proposed by Congress ($190 million).

National defense student loan (NDSL) funds have been available at state system institutions and independent colleges and universities, and, in exceedingly small amounts, at some community colleges.

Institutions have faced some problems in availing themselves of the NDSL funds, for the law has required that the institution supply $1 capital contribution for each $9 of federal funds. The state of Oregon has provided its state system institutions with capital for this purpose, as was noted on pp. 68, 71. The independent colleges and universities have raised their own capital for this program, and some of the community colleges have done so. Several additional community colleges will be able to offer a limited NDSL loan program in 1966-67.

The Health Professions Educational Assistance Act of 1963. This act provides financial assistance in the form of long-term loans for full-time students in programs of study to prepare doctors of medicine, dentistry, osteopathy, and optometry. Students may borrow a maximum of $2,000 a year, when adequate need can be demonstrated.

The loans are repayable over a ten-year period commencing three years after the borrower ceases to pursue the prescribed full-time course of study. Interest begins at the time the loan becomes repayable and is charged at a rate determined by the Secretary of the Treasury.

The Nurse Training Act of 1964. This act provides financial assistance in the form of long-term loans for students enrolled in associate degree, diploma, baccalaureate-degree, and graduate-degree programs in nursing. Students may borrow a maximum of $1,000 a year, when need is demonstrated. Loans are repayable over a ten-year period beginning one year after the student completes or otherwise ceases to pursue the prescribed full-time course of study. Interest, at a rate determined by the Secretary of the Treasury, accrues from the time the loan becomes repayable. Ten percent of the loan (plus interest) may be cancelled for each year the borrower is employed as a professional nurse in any public or nonprofit private institution or agency.

The College Work-Study Program. As part of the Economic Opportunity Act of 1964, this program provides federal funds for the employment of students in campus jobs and off-campus projects of nonprofit organizations. Work-study students may not be employed in positions for which other funds are available. The original law (1964) provided for a severe needs test, resulting in too few students qualifying to fill the available job opportunities. In the Higher Education Act of 1965, which placed the program under the U. S. Commissioner of Education, the needs test was softened to include students from a somewhat higher income group.

College work-study funds are available to public or nonprofit institutions offering programs of post-high school education which are accredited by an appropriate accrediting agency or approved by the U. S. Office of Education. The ratio of institutional funds to federal funds in this program is 1 to 10. The U. S. Office of Education contemplates that the ratio will become 1 to 3.

Guaranteed Student Loan Program. Title IV, Part B of the Higher Education Act of 1965 provides for federal, state, and private programs of low-interest insured loans to students in eligible institutions. (The definition of an eligible institution is the same as the definition under the college work-study program, summarized above, and the national defense student loan program.) This section of the act has for its purpose.

1. To encourage states and nonprofit institutions and organizations to establish adequate loan insurance programs for students in eligible institutions. The U. S. Commissioner of Education is authorized to make advances to any state with which he has made an agreement, as defined in the law, for the purpose of helping to establish or strengthen the reserve fund of the student loan insurance program covered by that agreement. Advances can be made to both state and nonprofit private institutions or organizations, if necessary, in order to insure that students at each eligible institution may have access through such institution to a student loan insurance program.

   Advances to a state, and to the nonprofit private programs in the state, may not exceed that percentage of the authorization that the population of the state aged 18 to 22, inclusive, bears to the total population of all the states aged 18 to 22, inclusive. The act further stipulates, however, that such limitation should in no case be less than $25,000. The repayment of these advances is to be made under terms and conditions prescribed by the U. S. Commissioner of Education.

2. To provide a federal program of student loan insurance for students who do not have reasonable access to a state or private nonprofit program of student loan insurance. The law prohibits the commissioner from issuing insurance certificates to lenders in a state if he determines that every eligible institution

has reasonable access in that state to either a state or private nonprofit student loan insurance program covered by the agreement with the state previously referred to.

3. To pay a portion of the interest on certain student loans which: (a) are insured by the commissioner under this part of Title IV, (b) are made by a state under a direct student loan program, or (c) are insured under certain state or private loan insurance programs. Any student whose adjusted family income is less than $15,000, and who has received a loan as described under (a), (b), and (c), above, is entitled to have paid on his behalf to the holder of the loan, over the period of the loan, a portion of the interest of the loan. Interest on the loan may not exceed 6 percent per annum on the unpaid principal balance of that loan.

   The payment a student is entitled to have made on his behalf is, during the period which precedes the repayment period of the loan, equal to the total amount of the interest which accrues prior to the beginning of the repayment period, and will, during the repayment period, be equal to 3 percent per annum of the unpaid principal amount of the loan, with the further stipulation that the payment may not exceed, for any period, the amount of the interest which (but for such payments) would be actually payable by the student, taking into consideration interest payments on his behalf for that period under any state or private loan insurance program.

The act limits the amount of federally insured loans that may be made to a student to $1,500 per year in the case of a graduate or professional student, and to $1,000 per year in the case of any other student. The aggregate insured unpaid principal amount of all federally insured loans made to any student may not exceed $7,500 in the case of a graduate or professional student, and $5,000 for any other student. Loans insured by the commissioner must provide for repayment within 15 years of the date of execution of the loan in installments over a period of 5 to 10 years beginning between 9 months and one year after the student ceases to carry half of the normal full-time workload at an eligible institution.

The foregoing loan program was created to meet the needs of those families whose children do not qualify for financial assistance under most needs tests, but who, nonetheless, do need help in financing their educational programs. Thus, any family whose adjusted annual income is $15,000 or less may qualify for the loan guarantee and interest subsidy. Oregon experience suggests that this program complicates somewhat the management of already existing financial aid programs because of the fact that students may receive support through a financial aid package developed with an institution and/or through other sources, based on the student's need, and then borrow additional funds under the insured loan program for "discretionary" expenses or to replace the effort expected of him and/or his family.

Approximately $66,300 will be available during 1966-67 to assist Oregon in getting an insured loan program under way. The Educational Coordinating Council has been designated by the Governor to coordinate the loan program, which is usually called "the guaranteed loan program." A contract has been entered into with the United Student Aid Fund, Inc., a private nonprofit, loan-insuring agency to receive the federal guarantee moneys for Oregon and to do the actual work connected with guaranteeing loans for Oregon students.

Educational Opportunity Grant Programs. Also included in Title IV of the Higher Education Act of 1965 is what has come to be known as the educational opportunity grant program, designed to make available the benefits of higher education to qualified high school graduates of exceptional financial need who would be unable to obtain these benefits without such aid.

For the 1966-67 year, $58,000,000 was appropriated to enable the commissioner to make payments to institutions for use by them in making payments to undergraduate students. Oregon's share of this amount is $759,719. Similar amounts are authorized to be appropriated for each of the two succeeding years.

Under the provisions of this program, a student may receive from $200 to $800 for each academic year during which he is in need of grant aid to pursue his course of study. The duration of an educational opportunity grant is to be not in excess of four academic years.

Social Security Benefits for Students to Age 22. The 1965 amendments to the Social Security Act have extended the age limit for children's benefits from age 18 to age 22 for full-time students attending a wide variety of schools. This law covers students whose parents are deceased, disabled, or retired. The amount paid from this source to a student monthly varies with the family's prior benefits.

New Federal Benefits for GI's. Under recent federal enactment, educational and other benefits were extended to veterans of the armed services who have served the requisite time since February 1, 1955. Under the terms of the act, veterans enrolled for a full academic load may receive, if single, $100 per month; with one dependent, $125 per month; and with two or more dependents, $150 monthly. If attendance is less than full time, the amount paid is geared to the cost of the tuition, certain fees, and books. The veteran is entitled to one month of payment for each month or fraction thereof of active duty after February 1, 1955. The veteran must have had a minimum of 180 days of active duty service to qualify for any benefits. Reservists who have completed a six-month training tour do not qualify because they are not actually inducted into active service.

Characteristics of the Federal Programs - A Summary

Existing federal programs were developed to meet the needs of clearly identifiable groups of people. Generally speaking, the federal legislation has sought to provide supplementary student financial aid, rather than replacement aid for already available funds or for funds that might conceivably be made available from other sources. But since the federal programs are specific to the needs of identifiable groups of persons, there are some needing assistance for whom the federal enactments make no provision.

Guidelines for Student Financial Aid Program in Oregon

Personal and Family Responsibility

1. A sound program of student financial aid should rest upon the basic premise that the student and his family have responsibility to make every reasonable effort to finance the student's post-high school education. Post-high school education has both a social importance and a personal value. The financing of post-high school education should reflect this fact. Insofar as possible, then, this financing should be a joint responsibility of society and the individual.

   Society should establish publicly supported post-high school institutions and agencies, placing them in as close proximity to the prospective students as sound organization and administration will allow. It should maintain tuition and fees at a reasonable level and should establish a program of student financial aid to assist those students who, with a reasonable effort, would not have access to post-high school education.

   The student and his family, on the other hand, have an obligation to make a reasonable effort to finance his education. The direct benefits of post-high school education to the student can be very great. He has some obligation, therefore, to contribute toward that benefit beyond the contribution that he, like taxpayers in general, make toward the support of public post-high school education.

The state's resources are not inexhaustible. And we believe that if those students who can afford to pay some portion of the cost of their education are asked to do so, thus reducing the cost to the state of the provision of education for them, the more likely are we to have the necessary state resources with which to meet the basic costs of an expanded post-high school education program, and the more adequately the state can assist those students who, with a reasonable effort, cannot find the resources to take advantage of the public post-high school resources of the state.

A Variety of Forms of Student Financial Aid Required

2. The state's student financial aid program should provide a variety of types of student financial aid, including grants, loans, and work opportunities. Experience has demonstrated that the interests of students are best served when there is available a variety of means for assisting those students who cannot, without outside help, begin or continue their post-high school education. The forms commonly in use in the United States are these:

    a. Grants. Grants to students represent the giving to the student of funds without requiring the student to perform any service therefor, nor to pay back the aid at a later date. Such grants take the form of cash awards or tuition and fee remissions. When grants are given on the basis of the student's demonstrated achievement, manifesting some highly developed talent (e.g., scholastic ability, dramatic ability, athletic prowess), they are generally referred to as scholarships. As we shall make clear later, the term "grant" appears to be a more meaningful term for our purpose.

       Nationally, the independent colleges and universities make a greater use of scholarship grants than do the public colleges and universities. Generally speaking, the independent colleges and universities receive a higher percentage of their operating costs from tuition and fees. To bring these costs for the student needing aid nearer those assessed in the public institutions, the independent colleges have made extensive use of scholarship grants. A 1965 study, by the Department of Health, Education, and Welfare, indicates that, although in 1963-64 the independent institutions enrolled only 36 percent of all students, they awarded 55 percent of the total aid.[1]

       State scholarship funds have, in the past, generally been quite meager, reflecting in part, no doubt, the free- or low-tuition policy of most public institutions of higher education.[2]

    b. Loans. Loans to students are in effect a "study-now-pay-later" avenue to a post-high school education. Long a part of the student aid program of independent colleges and universities, loan programs are now being vigorously promoted by state and federal governments. It is reported that state appropriations for student loans for the fiscal year 1965 amounted to $12.4 million, of which $8.1 million was estimated to be for servicing loans to students at private instituions.[3] As a Tax Foundation, Inc., report suggests, "The significance of these figures is greater than the small dollar amounts suggest because in most cases the appropriations increased an existing fund which is being used to guarantee loans up to ten or fifteen times the amount of the fund itself."[1]

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[1] Richard C. McKee, James W. Moore, and Dane Stockbridge, College Aid for Students (Health, Education, and Welfare Indicators; Washington, D. C.: U. S. Department of Health, Education, and Welfare, July, 1965), p. 4.

[2] Tax Foundation, Inc., Public Financing of Higher Education (New York City: Tax Foundation, Inc., 1966), p. 46.

[3] The Legislation for Higher Education in New York State. A Report by the Legislature's Consultant on Higher Education, December, 1964, Appendix D, p. 51, as quoted in Tax Foundation, Inc., op. cit., p. 44.

The volume of state-guaranteed loans approved, less repayments and defaults for the most recent year for which data are available (year ending June 1965), was reported to be $164 million, of which $122 million was in New York State.[2]

Student loan programs in the United States received a considerable boost from the National Defense Education Act of 1958, one of whose provisions made available funds for student loans. From the $9.5 million loaned under NDEA in 1959, in 24,831 loans to students in 1,118 institutions, the NDEA loans increased by fiscal year 1965 to an estimated $166.6 million in 319,075 loans to students in more than 1,500 institutions.[3]

c. Work Opportunities. In every generation students have "worked their way through college." Many now in their middle years are especially appreciative of the role that work opportunities can play, for it is to such work opportunities during the 1930's that they owe their college educations.

Aside from the discipline of work, which, to some who have worked their way through college, is of considerable value, the money thus earned reduces the need for students to borrow against their future earning capacity. As a significant part, then, of a total student financial aid program, work opportunities for students permit the institutional financial aid officers to develop, as needed, a well-rounded package of aid involving grants (gifts), loans, and work opportunities. The recent entrance of the federal government into this field through the work-study program (discussed in this report, p. 76) has given new impetus to this aspect of student financial aid.

We recognize that the advantages of working one's way through college can be oversold; that some students cannot carry successfully a college program if they must work any significant amount of their time during the school year; but we believe that the student financial aid officers on the several campuses in Oregon are sensitive to the proper uses of student employment, and its limitations, as a financial aid to students. Wisely used, such opportunities will continue to serve well.

Role of Need and Ability in Determining Student Financial Aid Needs

3. Student financial aid should be granted on the basis of financial need and scholastic and other special abilities. There appears to be some evidence that, in the past, grants have tended to go to children from families with incomes considerably above the average for the nation. An analysis of student financial aid, published by the American Council on Education in 1963, indicated that:

> Evidence . . . suggests that scholarship funds are going to children of families with incomes substantially above that of average for families in the United States. This may be due to the fact that high-income families are more apt to seek education and to seek higher-priced education, which usually is found in institutions with large scholarship funds. Whatever the reason,

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[1] Tax Foundation, Inc., loc. cit.

[2] Ibid.

[3] Ibid., p. 46

> lower economic classes are not favored by scholarship funds proportional to their numbers, abilities, or economic status.[1]

Financial need must constitute a significant factor in the determination of eligibility for student financial aid. State student financial aid should not be given, as it has often been, on the basis of academic ability alone, without concern as to whether there is a demonstrated financial need. This is not to say that we believe that ability should be ignored in determining eligibility for aid. It is rather to suggest that some threshold of ability should be established which would be indicative of a potential for success in post-high school educational endeavors, and that those whose abilities place them above that threshold should be granted aid in proportion to their need insofar as funds are made available. A brief discussion of a possible means for applying measures of need and ability in the determination of student financial aid is given on pp. 86-87.

Moreover, we believe that in measuring ability some concessions should be made to the special abilities possessed by those who may be gifted in ways not reflected by scores in academic subjects. For example, the youth who is gifted [illegible] technical or vocational education should not be overlooked when ability is measured and financial need considered in the granting of student financial aid.

Access to a Wide Variety of Post-High School Educational Opportunities

4. State student financial aid should be available to students attending any of a wide variety of post-high school educational institutions or agencies. As abilities and educational objectives vary widely, so must the financial aid programs open access to a wide variety of educational institutions - four-year public and independent colleges and universities, community colleges, proprietary schools. The state's student financial aid program should provide for this kind of flexibility in student choice among post-high school institutions or agencies. The student's choice as to institution should obviously bear some relationship to his abilities and should be limited to those institutions offering programs for which the student's capabilities would seem to indicate some potential for success.

Student Financial Aid Not to Be Tied to Numerous Special Eligibility Qualifications

5. Student financial aid should be tied as little as possible to the kind of special eligibility qualifications that are sometimes attached to student aid programs (i.e., qualifications which stipulate that, to be eligible for a given grant, the student must be a resident of a given community or section of the state, or must attend a specific institution, or must enroll in a specific program, e.g., civil engineering). As a general principle, we believe that if emphasis is placed upon removing economic barriers to post-high school education for young people, leaving to the student the choice of the curriculum and the institution in which he enrolls, the best interests of education will be served. Special eligibility qualifications of the kind cited above make the administration of aid programs more difficult without, what seem to us, adequate offsetting advantages.

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[1] Elmer D. West, op. cit., p. 96. The conclusion quoted above is admittedly based upon incomplete evidence. (Quoted in Tax Foundation, Inc., op. cit., p. 47.)

Responsibility for Student Financial Aid Program to Be Shared by Central State Agency and the Institutions

6. We believe that the development of the most effective student financial aid program in Oregon requires the joint and cooperative efforts of a central state educational assistance agency and of the institutions providing post-high school education. It will be important, for example, that the Education Assistance Commission be kept informed as to the amount of student financial aid provided individual students through other avenues than state grants administered by the commission since these other grants will have an impact upon the amount of the state grants given students. Similarly, the institutions must know of the state grants made to individual students by the commission. We will detail in the recommendations for this section more of the nature of the division of responsibility which we feel might most appropriately be made in Oregon between the state's education assistance agency and the institutions. Here we suggest only that the central agency seems best adapted to: (1) maintaining and disseminating to the people of the state full and complete information concerning the student financial aid opportunities available to the youth of the state, and (2) maintaining a continuing analysis of: (a) the effectiveness of the existing student financial aid programs, and (b) the extent of the unmet need for student financial aid, for the purpose of advising with the legislature, and others, concerning the need for additions to the program and desirable changes in those aspects of the program over which the state and its agencies have control.

Recommendations on Student Financial Aid

1. The state of Oregon, recognizing its responsibility to make post-high school education accessible to its citizens, should create and maintain an Education Assistance Commission which will administer all student aid programs financed from state funds and which will offer leadership and provide coordination in the field of student financial aid. The commission should be composed of seven members - five laymen and two student financial aid officers. All lay members should be appointed by the Governor for four-year, overlapping terms. Appointments of the student financial aid officers by the Governor for two-year, overlapping terms are to be made from a slate of three nominees suggested by the association of student aid officers.

   The presence of the financial aid officers on the commission will provide a useful and needed professional view on issues considered by the commission. It will, moreover, establish an avenue for the necessary liaison of the commission's work with that of the institutions in the field of student financial aid. The commission would absorb the duties of the present State Scholarship Commission and would assume additional ones as described below. The roles of the commission and the post-high school institutions in the area of student financial aid would be complementary and mutually supporting.

   The commission would have as its primary responsibilities the following:

   a. The commission would work with the post-high school institutions and agencies in such activities as:

      (1) The standardization of financial need analysis procedures used by student aid administrators employed by the commission and by the post-high school institutions.

      (2) The development of terminology consistent with the objectives of student financial aid programs in Oregon.

(3) Identification of students or prospective students needing financial aid.

The commission would identify those students eligible for state financial aid grants and would make awards to them. The amount of these awards would be determined by the commission in cooperation with the institutions, considering the various types of financial assistance available to the student at the institution. The colleges and universities would select the recipients of work-study benefits or institutional loan fund benefits. It is to be anticipated that, with information at hand concerning the state funded grants awarded by the commission, the institutions would develop an "aid package" involving whatever supplementary aid might be needed by a given student (i.e., educational grant funds from resources available to the institution, work-study opportunities, and a loan program).

b. The commission would provide accurate, complete, up-to-date information concerning student financial aid programs to all segments of Oregon's population concerned with these programs - students and their parents, high school counselors, institutions of higher education, donors or prospective donors, educational policy-forming bodies (State Board of Higher Education, State Board of Education, Educational Coordinating Council, and the legislature).

Maintaining comprehensive, up-to-date information concerning existing student financial aid opportunities open to Oregon's post-high school students is a difficult, almost unending responsibility. Such information is, however, essential to students and their parents, and to those who advise with them concerning post-high school educational opportunities (high school and college and university counselors and institutional financial aid officers).

Rexford Moon, commenting on this need, says:

> Since our sources of aid are scattered, the purposes different, and the demand great, it is not surprising that one major problem is found in efforts to provide information about aid resources, requirements, and so forth, to the potential college-going public. The public is confused by the bureaucracy which has grown up in and out of college for disbursal of financial aid.[1]

As it now stands, there is not, in Oregon, any central data collecting agency to serve this purpose. Though the college and university financial aid officers are informed on these matters, they must individually search out the information in their efforts to keep abreast of developments in the field.

The proposed commission would maintain such information in a current status for the benefit of counselors, students and their parents, and all others finding use for these data. The commission would, of course, work cooperatively with the high schools and colleges in disseminating this information to their students.

c. But the commission should be more than an agency for reporting "what is" in student financial aid, important as that information is. It should maintain a continuing analysis of the student financial aid situation in Oregon and, periodically, it should report as to: (a) the student financial aid demand-supply equation, (b) recommended changes in the administration of student financial aid, and (c) anticipated student financial aid needs in the immediate and far-ranging future. In this capacity, the commission will fill a particularly needed function, currently unfilled in Oregon. It is here that the commission will be most helpful to the legislature, the state educational boards, and the Educational Coordinating Council.

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[1] Rexford G. Moon, Jr., Student Financial Aid in the United States: Administration and Resources (New York City: College Entrance Examination Board, 1963), p. 2.

2. Student financial aid programs in Oregon should include a variety of kinds of student aid, including grants, loans, and work opportunities as described below.

   a. Grants - We use the term "grant" and propose that, hereafter, that term be used in Oregon in place of the term "scholarship," for two reasons. We think grants should be made on the basis of demonstrated financial need to those students having demonstrated a potential for success in post-high school educational endeavors, and not on the basis of academic scholarship alone. Moreover, we believe that in measuring potential for successful achievement at the post-high school level, academic achievement and a demonstrated potential for success in strictly academic areas should not be the sole basis for measuring potential. There are other kinds of abilities leading to post-high school educational preparation for occupations important to society. These, too, should be recognized in the grant program.

   As proposed in Item 1, a, (3), above, the state-funded grants would, under our recommendation, be administered by the State Education Assistance Commission.

   If the current level of state funding for student grants (tuition and fee remission and state cash appropriations for student awards) were to be continued at the current (1966-67) rate and made available to the community colleges and independent colleges at the same rate as in state system institutions at present, the required appropriation would be in excess of $5 million for the 1967-1969 biennium, and an estimated $7.2 million in the 1973-75 biennium. These figures were arrived at as described in the paragraph which follows.

   The current (1966-67) level of state student financial aid (present state scholarship program) to students attending state system institutions represents a sum equivalent to $34 per full-time-equivalent student in these institutions. Assuming no significant changes in tuition levels and assuming that the same level of support were to be maintained for the state-supported grant program, but including funds for community colleges and independent colleges at the same rate as provided for the state system institutions, it would appear that annual state financial aid fund needs for grants for the period 1967-68 through 1974-75 would be required as shown in Table 23, p. 85.

   In addition to the state-funded grants which will be the preponderant amount available in Oregon, there are some non-state-funded grants administered by the institutions. These non-state-funded grants would continue to be solicited from private and foundation sources by the institutions.

   b. Loans - The principal state contribution to the student loan program should be through the provision of funds to guarantee loans made to students by private lending agencies. The state of Oregon should establish a loan insurance fund for this purpose.

   The guaranteed loan program should be administered jointly by the proposed State Education Assistance Commission and participating institutions. The guarantee funds should be administered by the commission. But the advising of students concerning their seeking a guaranteed loan should be the responsibility of the institutional financial aid office, where the loan application will originate.

TABLE 23

ESTIMATED STATE FUNDS NEEDED EACH YEAR FOR GRANTS TO STUDENTS ENROLLED IN STATE SYSTEM AND INDEPENDENT COLLEGES AND UNIVERSITIES AND COMMUNITY COLLEGES AT LEVEL PROJECTED FOR STUDENTS IN STATE SYSTEM INSTITUTIONS 1966-67

Year 1	Estimated FTE Enrollment 2	Estimated Funds Needed 3
1967-68	71,380	$2,426,920
1968-69	77,914	2,649,076
1969-70	82,892	2,818,328
1970-71	88,597	3,012,298
1971-72	94,365	3,208,410
1972-73	99,631	3,387,454
1973-74	104,365	3,548,410
1974-75	108,204	3,678,936

We would caution against the assumption that the guaranteed loan program should become the major student financial aid provision for Oregon students. We think loans are an essential aspect of a sound student aid program, but we believe that they should be used with discretion so that the student need not be indentured for excessively long periods upon graduation to repay loans covering his undergraduate education.

In September 1964, the Legislative Fiscal Committee of the Oregon Legislative Assembly published a report recommending the establishment of a loan guarantee fund. On page 2 of the report, it was concluded that there would be need for state loans in the following amounts for the following bienniums:

1965-1967	$3 million
1967-1969	$5 million
1969-1971	$6 million

The Higher Education Act of 1965 establishes a program of interest subsidy for students borrowing from private lenders and using state loan guarantee provisions. This program encourages more borrowers in that the interest subsidy is available to any student whose effective family income is less than $15,000. It is likely, therefore, that the foregoing estimates are conservative.

c. Work Opportunities - While work opportunities are an integral part of the student financial aid package, we do not visualize the need for the state to make any special appropriation for these programs. The institutions have for many years provided some work opportunities for students as a normal part of their operations. More recently the federal government has provided substantial support for work-study programs as described in this report, p. 76.

Work opportunity programs should be administered by the institutions as we have earlier indicated.

3. In the interests of maintaining in our institutions the educational advantages which a cosmopolitan student body offers, the present program of fee remissions

at state system institutions to students from other states and foreign nations should be strengthened through improved information and selection procedures.

4. The commission should encourage the creation of, and administer, when requested by the donor, privately funded financial assistance programs whose donors are primarily interested in aiding students seeking post-high school education without regard to the student's choice of institution or field of study.

   Many firms, organizations, and individuals are already contributing in various degrees to institutional aid programs. The State Scholarship Commission has encouraged the continuation of such contributions. There are many potential donors who wish to give money to deserving students, but who are not concerned with the institution attended or the course of study followed by the recipient. The proposed commission would receive and administer such funds.

5. A program of recognition for Oregon high school seniors having records of high academic achievement should be established.

   We believe that the state should continue to encourage high academic achievement among high school students, and we would propose that this be done by the establishment of a program which would give appropriate recognition to students with exceptional scholastic achievement and ability in high school. This should be done through the identification of students as "Oregon Scholars."

6. The state of Oregon should establish and maintain a central loan collection agency which will serve the needs of all post-high school institutions in Oregon in the matter of loan collection and which will be administered by the Education Assistance Commission, and institutions using the collection service should share in the cost of the activity.

   An important, time-consuming, and costly phase of student loan programs is the collection activity. Most post-high school institutions in Oregon are presently involved in collections. The time, effort, and money demanded will increase as more students using national defense student loans graduate and begin to pay their debts. To have many small collection operations scattered throughout the state seems unnecessarily costly. One central agency could most likely perform the service at less expense and could more easily employ persons specialized in such work. Centralizing collections need not mean that the individual institutions lose control of this phase of the total loan process. Nor does it necessarily mean that the institution will lose the good will of the borrower. It does give promise of providing greater efficiency in the performance of a difficult task.

7. The state grant program administered by the proposed Education Assistance Commission should be consistent with the guidelines set forth in this present chapter. The details of the administrative arrangements governing the program should be worked out by the commission, but the post-high school study committee suggests that the following features incorporate what the committee considers important aspects of a sound state grant program for post-high school education. The illustrative approach, described below, consists of four aspects, as follows:

   a. The commission would identify the Oregon Scholars. The commission would select the top five percent of the state's academically talented high school seniors, who would be designated Oregon Scholars, and who would be given appropriate recognition.

      Selection of these Oregon Scholars would be based upon one or more of the following measures:

      (1) Academic record in a college-preparatory course of high school study.

(2) Scores on a standardized college aptitude test or other tests appropriate to the identification of special abilities.

(3) The student's rank in his graduating class.

Designation as an Oregon Scholar would carry with it no promise of a state grant. Such grants, the committee recommends, should be given primarily on the basis of student financial need, but considering, too, student ability and available state funds.

b. The commission would then meet the financial needs of financial aid applicants from among the Oregon Scholars. A careful, systematic, objective appraisal of financial need would be made by the commission for each Oregon Scholar who had applied for financial aid. Those applicants for whom a warrantable need could be established would be given a state grant measured to their financial need. Funds sufficient to this need would be set aside for this purpose.

c. The commission then would select the recipients of grant awards from among those applicants from the remainder of the graduating high school class who, the commission felt, might reasonably be expected to profit from post-high school education. Applicants would be granted state grant assistance in those instances in which financial need were demonstrated, grants being made to the most needy first, then the second most needy and so on, until the allocation for this purpose was exhausted.

d. The commission would then select the recipients of grants from among those applicants who, the commission felt, could benefit from post-high school education but who were not in the high school graduating class. These applicants would be either enrolled already in post-high school educational programs or, though not enrolled, desirous of enrolling. Applicants would be awarded state grants on the basis of such factors as demonstrated financial need, available state funds for this category of grant, and student ability.

In each of the above instances, due attention would be given by the commission to dividing the available funds among the non-baccalaureate-oriented and the baccalaureate-oriented applicants.

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CHAPTER V

Post-High School Undergraduate Programs

We began this discussion of post-high school education in Oregon (Chapter II) by suggesting objectives for post-high school education in Oregon and by stating some of the premises upon which these objectives rest. It is these premises and these objectives which underlie our observations in this present chapter on post-high school undergraduate education in Oregon.

We restate here, briefly, some of the salient understandings which we believe to be valid and from which this chapter will proceed to a discussion of undergraduate education in Oregon.

1. Given the objectives for post-high school education in Oregon to which we subscribe (Chapter II), it follows that post-high school undergraduate educational opportunities in Oregon must be of a wide variety.

   a. The needs of society call for human talents of a wide variety; achievement at many levels. Human resources not developed represent a social loss.

   b. The needs of the individual can be well served only when the educational program deals with him in terms of his abilities, interests, and potentialities. Since the abilities, and objectives of youth and adults to be served in post-high school programs in Oregon vary widely, it follows that the variety of programs offered must be wide-ranging. What is one student's felicity may be another's futility. In a short-hand idiom, Oregon has an educational obligation both to its hand-minded and to its book-minded citizens.

2. The undergraduate-level post-high school educational opportunities essential to meeting the needs of Oregon must provide a breadth of choice both as to the character of the programs and as to their duration or length.

   a. The programs must provide for: (1) general education, (2) occupational education and training at several levels, including in some instances, programs leading to semi-skilled or skilled occupations, in others to semi-professional positions for which training in technology qualifies the student, (3) preprofessional preparation for entrance into professional programs such as medicine and law, (4) professional preparation for entrance into professions such as engineering, architecture, and the like, (5) baccalaureate degree programs leading either to graduate education or to an educational base from which one's future activities may otherwise benefit.

   b. The programs must range from the briefest of programs (of a matter of weeks in some occupational programs) to the most ambitious undergraduate programs extending to a full four years, and even, in some cases, perhaps, a full five years.

We have given important place to occupational education and training among the post-high school educational objectives to be served in Oregon. It is not that we consider the training of workers at various levels, from the skilled craftsman to the professional man, to be the primary responsibility of post-high school education. It is, rather, that we believe that an important attribute of a satisfying and productive life is the ability to perform a useful function in a manner satisfying to one's self and useful to society; that post-high school education must necessarily, therefore, provide a base upon which a satisfying career may rest.

In taking this position we are not unmindful that science and technology have worked some profound changes in the occupational profile of the United States; that the prospects are that these changes will continue, perhaps at an accelerated rate in the future; that the work ethic itself, so long the cornerstone of economic and social life in our society, appears to some to be jeopardized by the advances of science. Gerard Piel, publisher of the Scientific American, speaks to this point of view as follows:

> The advance of science has for many years been undermining the two pillars of our economy - property and work. Each at length has fallen from its place. . . . Work occupies fewer hours and years in the lives of everyone; what work there is grows less like work every year, and the less the people work, the more their product grows. . . .
>
> It is difficult and perhaps dangerous to forecast where these changes may lead. Full employment, for example, now seems to be not only unattainable but an outmoded objective of economic policy.[1]

Referring to property and work as "artifacts of civilization" which are "withering from the life of society," Piel asserts:

> Mention of the social security now provided for the overwhelming number of United States citizens brings this discussion to the topic of work. Social security is one of the devices evolved in the recent history of our industrial economy to help solve the problem of "distribution." This, as is well known, is the last frontier of economics. Viewed from the vantage of the economy as a whole, it is the problem of finding people qualified to consume the increasing abundance of goods produced by a declining number of workers. From the point of view of the individual citizen, it is the problem of finding work in a shrinking labor market in order to qualify as a consumer of that abundance. Thus, as we shall see, the primary function of work in our economy today is to secure not the production but the distribution of goods. This is clearly a different situation from that which prevailed in the valleys of the Tigris and Euphrates 7,000 years ago, when the surplus had to be extracted from scarcity by coercion. /Emphasis added./
>
> Modern industrial technology produces a vast material surplus of goods, many times greater than the need of the workers engaged in producing it. That surplus goes begging for consumers because technology has subverted the social institution of work.
>
> . . . .
>
> The nation's principal economic problem has become that of certifying its citizens as consumers of the abundance available to sustain them in tasks worthy of their time.[2]

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[1] Gerard Piel, Consumers of Abundance (Santa Barbara, Calif.: Fund for the Republic, Inc., 1961), p. 3.

[2] Ibid., pp. 5, 9.

Automation and cybernetics are changing the world. Their impact is seen in the arresting illustrations cited by Venn:

> The impact of these devices /automated machines and computers/ on the labor market has been profound. Automatic elevators have recently displaced 40,000 elevator operators in New York City alone. New equipment in the Census Bureau enabled 50 statisticians to do the work in 1960 that required 4,000 such people in 1950. The check-writing staff in the Treasury Department has been reduced from 400 people to four. The airline flight engineer and the railroad firemen may soon disappear completely. . . . Mechanical cottonpickers have, in the last four years, reduced farm jobs in lush Tulare County, California, from 25,000 to 17,000. Thirty thousand packing-house workers have been "automated out" of their jobs in the past few years. Enormous machines have helped reduce employment in the coal fields from 415,000 in 1950 to 136,000 in 1962. While construction work has leaped 32 percent since 1956, construction jobs have shown a 24 percent decline.[1]

What automation has done to the unskilled and the semi-skilled, it is doing to the skilled craftsman and the white collar worker. And indications are that middle management will not finally escape unaffected from this technological revolution.

Meanwhile, and automation notwithstanding, there are important employment needs that must be met. These tend to be more and more demands for highly skilled, semi-professional, technical, and professional workers. Illustrative of these demands are:

- Bureau of Labor statistics projections show a need for 520,000 new skilled workers annually through 1970.[2]
- Emerson, in a report requested by the President, discussing technical training in the United States, asserts, after reviewing a study done for the National Science Foundation by the Bureau of Labor Statistics, that "the indicated needs call for a ratio of at least 2 to 1 between technicians and engineers, or a total of some 200,000 technicians needed anually in the years immediately ahead."[3]
- Venn's report for the American Council on Education states that the more conservative government estimates indicate actual employment opportunities for at least 100,000 additional technicians per year over the next decade. Venn suggests that to meet this minimum goal for trained technicians, the educational system must triple its efforts.[4]

It must be said that the job-placement experiences of the community colleges and technical schools suggest that, at least for the present period of prosperity and high employment, a demand for trained and qualified persons in a great many fields exists.

So it is that we have no hesitancy in giving occupational education and training the important place we do in the post-high school educational programs to be offered in Oregon. At the same time, we would enter here several admonitions:

- We understand the view held by some, though we do not concur with it, that the best vocational education for all is a major in the liberal arts. There are large numbers of youth in Oregon for whom post-high school education involving occupational preparation in its various forms holds out the diversity in educational opportunity and the practicality without which we could not, in fact, deal with the post-high school interests and needs of youth and adults each in terms of his abilities and interests.

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[1] Grant Venn, Man, Education, and Work (Washington, D. C.: American Council on Education, 1964), p. 4.

[2] Ibid., p. 105.

[3] Lynn A. Emerson, Education for a Changing World of Work: Appendix I, Technical Training in the United States (Washington, D. C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1963), p. 36.

[4] Venn, op. cit., pp. 133-34.

The one-track approach to post-high school education is feasible only if one were concerned with meeting the needs of a very select group of carefully chosen students. Since this is not our purpose in Oregon, we reject out-of-hand the one-track concept.

- Nor do we subscribe to the view held by some that occupational training divorced from the liberal arts is the most effective occupational preparation. Occupationally-oriented post-high school education separated from the liberal arts is excessively limiting. We do not assume, as some have, that the general education needs of people are fully and adequately met in the secondary schools. The larger human ends of life demand of man that he function other than solely as a worker. As a human being, he is caught up in the cultural, political, social, and ethical aspects of an increasingly complex life. A life in which the ability to think rationally and reflectively on the problems of the social, economic, political, and cultural world about him is important - even essential - to his capacity to function effectively as a well-integrated human being and a profitable citizen.

In short, we abjure both extremes - the one which places sole reliance on the liberal arts as a universal answer to post-high school educational needs, and the other which would, for the occupationally-oriented, ignore completely the liberal arts.

This is not to say that there is no place for the short-term, occupational "retraining" program. We believe there is. But to be effective, post-high school education, even when it has an occupational orientation, must find the means of wedding the occupationally-oriented to the liberating disciplines.

- We hold that post-high school education, even when occupationally oriented, must provide the individual with a breadth of preparation and a flexibility of outlook such that he can readily, and with a minimum of hesitation, adjust to the changing world about him. It is the barest of commonplaces that occupational change is a way of life. Venn reports that in a recent year, for example, more than 8 million different workers changed jobs; that in that same year there were 11.5 million job changes, "two-thirds of which were to a completely different industry, one-half to a completely different occupational category."[1] With the prospect that many will need to change occupation several times during a working lifetime, flexibility is priceless.

An important avenue to greater flexibility in occupational education is, of course, to provide the student with a base in the liberal arts and an understanding of the important principles underlying a family of occupations rather than merely the skills needed in a narrow occupation within that family.

If, in the future, a world does indeed develop in which work, as an important element in production, has lost its significance, and where universal leisure reigns, our educational programs, if they are flexible, may then turn themselves to those kinds of activities having meaning for that kind of world. Piel suggests that such activities might well include: teaching and learning, fundamental scientific investigation, the performing arts and the graphic arts, letters, the crafts, politics, and social service.[2]

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[1] Venn, op. cit., p. 130.
[2] Piel, op. cit., p. 9.

However, the world of work seems not to us likely to be outmoded within the next decade, at least. We think Piel not wrong when he suggests that, "For some time to come, we can be sure, the real work that remains to be done in the world will stave off the specter of universal leisure."[1]

3. Oregon can realize the fullest uses of the diversity of its post-high school agencies and institutions only if we are able to gain wide acceptance in Oregon, particularly among potential students, of a concept of excellence that permits each school or institution to be measured in terms of its own aims and objectives. This is crucial for a number of reasons. If a single standard of excellence is applied in assessing the quality of all post-high school agencies, it is evident that many of the schools and institutions will be considered inferior simply because they are different. Such misjudgment is likely to have one or more of several disastrous effects upon the maintenance of the kind of diversity of opportunity that is essential if Oregon's people are to be well served:

   a. We shall discourage diversity of function in our post-high school institutions which diversity is essential if we are to provide educational opportunities suited to the wide range of student characteristics, interests, and objectives. Schools, colleges, and universities will be encouraged to give up whatever uniqueness they have in order to conform to the characteristics of the institution for which the single standard of excellence has meaning. We have seen this in some states as community colleges, not appreciating the importance of the unique role they have to serve, have yearned after both the "status" and the role of the four-year liberal arts college.

      Diversity of function is encouraged when the special character of a given type of institution is recognized, appreciated, and rewarded by the esteem in which it is held for being a high-quality institution of the type it purports to be. A school or institution should be considered inferior only if it fails to perform effectively those functions for which it exists, as defined in the institution's aims and objectives. In a word, as someone has suggested, we should not judge as inferior the Jeep, simply because it is not a Cadillac.

      In the imagery of John Gardner: We must have both plumbers and philosophers and unless we provide quality education for both, neither our pipes nor our theories will hold water.

   b. We shall deny ourselves the fullest use of the capacities of those teachers and administrators who are employed in the institutions or schools for which the single standard of excellence is largely irrelevant. There can be little zest in spending one's energies in the performance of functions little recognized or appreciated, and when there is no real prospect that either the staff or the institution can gain distinction from performance of a unique function superlatively well. Under these circumstances, teachers and administrators are most unlikely to be able to give their best.

   c. We shall mislead potential students and their parents into assuming that one particular kind of school or institution is superior to all others for all people and for all purposes. Students will be led into the error of choosing their post-high school educational programs in terms of a false sense of prestige, rather than in terms of their own capabilities and needs. Many of them will thus deny themselves access to the very programs which are designed specifically to meet their special abilities. We see this far too frequently now in the program choices made by students who, though a program in the technical-vocational field would best suit their needs, ascribe to the strictly academic program a universal virtue which it does not possess.

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[1] *Ibid.*, p. 10.

In short, we must recognize that needed diversity in educational function can be achieved and effectively used only if we honor each of these diverse functions that together constitute the total post-high school educational offerings in Oregon.

4. *To encourage fullest use of the diversity of post-high school educational opportunities available in Oregon, and in recognition of the fact that students' interests and objectives are often subject to change in midstream, we recommend that the colleges and the universities of Oregon seek to develop means for assessing accomplishment on the basis of the individual's present performance, so that learning, however or wherever acquired, may be given appropriate recognition in terms of credit and degree requirements*. An illustration of this need may be seen in the case of the student who enrolls in an occupationally-oriented, vocational-technical program, and who, either in midstream, or having completed the program, decides that he wishes to earn a baccalaureate degree at one of the four-year institutions. Under the present situation, he faces the prospect of beginning anew at the four-year institution. *What is being suggested is that students be permitted to validate the knowledge they have gained through whatever avenues, and be given appropriate credit and degree-requirement recognition therefor*.

   Such a suggestion flies in the face of the American concept of the importance of the "course," with its stated hours of class attendance and participation and its expected hours of outside study. It seems to be a rejection of the value of the kinds of learning which many feel can be secured most effectively in classroom activities and post-classroom discussions. Yet we believe that what we here recommend is a necessary and desirable development.

   That it will have far-reaching implications is obvious. For there are many people who, through a variety of non-collegiate experiences, may have gained knowledge that would permit them to pass examinations in specific subject matter areas, at the lower-division level, for example. In a practical sense, if what we are interested in is the individual's ability to demonstrate mastery in a subject matter area, the means by which he achieved that mastery seems of little moment.

   Colleges and universities do not easily acquiesce to giving credit for work not taken either in the institution or in some other accredited institution, though there is precedent for doing so, both abroad and, on a limited basis, in this country. An *ad hoc* committee, appointed by the College Entrance Examination Board (CEEB), reports a study to the effect that the University of London has, for more than 150 years, offered college credit to external students on the basis of examination.[1] And there are other European universities with a similar arrangement. "Under the University of London model, students admitted to the University are examined and their attainment of the degree is dependent solely on their examination performance. Class attendance and participation is viewed merely as a means of preparation for the examinations."[2]

   In the United States, numerous colleges and universities have, since 1954, demonstrated a willingness to award college credit for instruction conducted in the secondary schools under the Advanced Placement Program and validated by examinations. Their confidence in this program - which recognizes achievement wherever it occurs - stems from their confidence in the College Entrance Examination Board and the role that the colleges and universities have had in the program through their participation in the annual subject matter conferences and in the examination process which forms the basis for the credit institutions award.

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[1] Jack N. Arbolino, *A Report to the Trustees of the College Entrance Examination Board: The Council on College-Level Examinations* (New York, N.Y.: College Entrance Board, 1965), p. 20 (Quoting Henry Dyer, John Valley, "Credit for Off-Campus Achievement," p. 3).

[2] *Ibid*.

The CEEB ad hoc committee, appointed to advise the trustees and the president on the establishment of the Council on College-Level Examinations, reported in 1965 that it was unanimous in recommending that the College Entrance Examination Board move ahead in its plans to establish the council and to "develop a new examination program emphasizing placement and credit beyond the freshman year."

We believe this national effort to be a useful one. We would encourage the colleges and universities of Oregon to promote this development. This is not to imply that there are not some colleges and universities in Oregon which are already moving in the direction of granting credit on the basis of examination. Some are. We would encourage the extension of this practice.

5. Numerous agencies and institutions, some publicly supported, some privately supported, are necessary to the provision of the variety of post-high school educational opportunities the needs of Oregon demand. Diversity in education has its uses. An important aspect of that diversity is the variety of sponsoring agencies and institutions providing post-high school educational opportunities in Oregon: public institutions and agencies (State System of Higher Education colleges, universities and technical institute, and the community colleges); privately-supported (independent) colleges and universities; proprietary (private vocational) schools; business, industry, and labor (i.e., apprentice-training programs, in-house personnel development programs, etc.); armed services (a wide variety of technical-vocational programs designed to provide the armed services with the trained personnel they need); and others.

6. Coordination in planning and cooperation in service are necessary to Oregon's realizing the fullest possible benefits from the diversity of its educational offerings at the post-high school undergraduate level. It is this need which prompts us to embrace and endorse the concept of the State's Educational Coordinating Council as an avenue of coordination, and which led to our recommending in Chapter XVI that the proprietary schools be given membership on the council, thus bringing together representatives of the major elements of the state concerned with or related to post-high school undergraduate education (State System of Higher Education, independent colleges and universities, community colleges, proprietary schools).

Institutional Units of the Post-High School Educational Structure in Oregon

There is a diversity of schools, colleges, and universities in Oregon involved in offering post-high school education of a variety of kinds. We have given a chapter to each of these elements of the post-high school structure in Oregon, as follows:

- Proprietary (Private) Vocational Schools - Chapter VII
- Community Colleges - Chapter VIII
- Institutions of the State System of Higher Education - Chapter IX
- Independent Colleges and Universities - Chapter X

What we seek to do in this section of this present chapter is to bring together, in juxtaposition, an analysis of the character of the post-high school educational offerings in these several types of educational agencies in Oregon, for the purpose of observing their interrelationships. In the first section of this chapter we review the nature of the undergraduate programs offered; in the second section we discuss interrelationships.

Proprietary (Private) Vocational Schools

The proprietary schools (private vocational schools) are profit-oriented schools, privately owned. They offer occupationally-oriented programs ranging in length from one week (30 class hours) in several schools, to programs extending to 12 to 14 months (in the case of training in heavy equipment operation and in electronics, respectively), and in the case of one correspondence course in one home study proprietary school operating in Oregon, a full four years. Figure VIII, p. 97, reveals the programs offered in the proprietary schools in 1965.

Vocationally-oriented, these programs offer a minimum of related liberal arts instruction, concentrating specifically upon the occupational training most directly related to the performance of the job for which the individual is being trained. (See Chapter VII.)

Community Colleges

The community colleges have a multiple responsibility which includes the offering of: (1) terminal, occupationally-oriented programs for training persons for semi-skilled and skilled employment, (2) vocational-technical programs of varying lengths from one to three years, leading, in some cases, to an associate degree, (3) adult education programs, not occupationally-oriented, (4) college transfer programs leading to an associate degree and offering the student the lower division preparation on which he may build at a four-year institution in earning a baccalaureate degree, (5) guidance and counseling services, one of the most significant and important aspects of the community college program. Guidance is of such importance because the community colleges are "open-door" "opportunity" institutions, and hence enroll many students who are uncertain as to their educational and occupational interests and who therefore require guidance and counseling assistance.

Tables 24 and 25 list the vocational-technical and college transfer programs offered in the nine community colleges which were operative in 1965-66.

In the fall of 1966-67, there will be in operation in Oregon 11 community colleges, with the addition of Mt. Hood Community College and assuming that the Clackamas Community College, approved by a vote of the people of the area education district May 24, 1966, opens in the fall of 1966. (See Chapter VIII.)

The State System of Higher Education

The State System of Higher Education consists of two universities (University of Oregon - with its Medical and Dental Schools in Portland - and Oregon State University), four colleges (Portland State College, Southern Oregon College, Oregon College of Education, and Eastern Oregon College), and a technical institute (Oregon Technical Institute).

In the aggregate, the state system institutions offer a wide range of programs. (See Tables 26, 27, 28, 29, pp. 100-103.

- In the field of technical education, the range is from two-year programs, available at Oregon Technical Institute, the Medical School (medical radiologic technology), and the Dental School (dental hygiene), to baccalaureate degree (four year) programs available at Oregon Technical Institute, and Oregon State University (Table 26).
- In professional fields, programs range from baccalaureate offerings in selected fields -
    - in the four colleges (teacher education programs in all four colleges and business administration programs at PSC and SOC).

FIGURE VIII: PROPRIETARY VOCATIONAL SCHOOLS OPERATING IN OREGON, SEPTEMBER, 1965

Type of Vocational School	Number of Schools by Type	Licensing Jurisdiction	Course Offering of Schools	Range of Admission Requirements	Enrolled Students Sept. 65	No. completing course past yr.	Location of Schools		Range in Tuitions
							In Portland	Out of Portland	
Aeronautics Flight Schools	18(1)	Chapter, 49B, ORS & Federal Aviation Adm.	Flight Training for Commercial Pilots License & Ground Training Courses.	17 yrs. of age. Ability to read and write. Medical examination.	280	140	2	16	$1500 to $2500
Arts and Crafts Schools	3	Chapter 345, ORS.	Commercial and Fine Arts. Art Appreciation. Floral Design. Furniture Upholstering.	Interest and aptitude. Personal interview. Good use of hands. Entrance examination.	101	240	3	--	$285 to $760
Barber Schools	5(2)	Chapter 690, ORS.	Scientific Fundamentals of Barbering	18 yrs. of age. Graduation from 8th grade or equivalent. Medical exam. indicating no infectious or contagious disease.	159	170	3	2	$350 plus tools
Beauty and Hairdressing Schools	30	Chapter 691, ORS.	Scientific Fundamentals of Hairdressing and Beauty Culture.	17 yrs. of age. 2 yrs. of high school or equivalent. Medical exam. and negative Wasserman test.	1527	659	9	21	$195 to $500
Business Schools	21	Chapter 345, ORS.	Secretarial Science. Business Machines. IBM Key Operators. Accounting--Legal Secty. Medical Secretary--Receptionist.	17 yrs. of age. 2 yrs. of high school or equivalent. Aptitude & interest. Personal interview.	2349	1693	9	12	(Wkly. rate $12.50-18.50 (Mo. rates-$50 to $75) (Course rate $385-$945)
Correspondence Schools	5(3)	Chapter 345, ORS.	Metal Craft--Diesel. Heavy Equipment--Tractor. Medical-Dental Technicians. Oil Burner Maintenance. Cummins Crs. Elect.	High school diploma or equivalent. Aptitude test. Interest & aptitude.	18,874 (150)(5)	3928 (1200)(5)	4	1	$128 to $1295
Dental and Medical Technician Schools	2	Chapter 345, ORS.	Dental & Medical Receptionist. Crown & Bridge. X-ray Technology. Medical & Dental Assistants. Dentures.	High school diploma or equivalent. 18 yrs. or older. Good health. Prefer some college training.	145	144	2	--	$300 to $1250
Driver Training for Commercial Vehicles Schools	1(4)	Chapter 345, ORS.	Commercial Transport Operation-Pickup and Delivery. Refresher Course.	Traffic driving knowledge test. 18 yrs. of age. Physical examination.	7	52	1	--	$545 & hourly rates
Electronics Schools	3	Chapter 345, ORS.	Operating Engineer. Radio & Television Repair. Radio & Television Broadcasting. Electronics Techn.	High school diploma or equivalent. Aptitude test. 1 yr. college is recommended.	256	196	2	1	$100 to $750
Heavy Equipment Schools	3	Chapter 345, ORS.	Diesel & Heavy Equipment Operators. Diesel & Heavy Equipment Mechanics.	Screened as to mechanical ability. Physically capable. High school diploma or equiv. Aptitude test.	485	287	3	--	$300 to $1200
Massage Schools	1	Chapter 345, ORS.	Anatomy--Physiology. Hygiene--Exercise--Hydrotheraphy-Electrotheraphy--Massage.	High school diploma or equivalent. Good use of hands.	4	8	-	1	$300 for 600 hrs.
Modeling and Charm Schools	5	Chapter 345, ORS.	Professional & Junior Modeling. Dress Fashioning. Posture. Personal Charm.	7 yrs. of age & up. 13 yrs. of age & up. High school diploma or equivalent. Personal interview.	301	812	4	1	$45 to $900
Real Estate Schools	7	Chapter 345, ORS.	Real Estate Salesman. Real Estate Broker.	21 yrs. of age. Interest-experience-aptitude. High school diploma or equiv. College training recommended.	210	853	5	2	$35 to $125
Salesmanship & Self Improvement Schools	5	Chapter 345, ORS.	Dale Carnegie Prof. Sales--Sales Training. Self Improvement. Effective Sales Speech.	Mature individual. Entrance exam. Sales experience. Interest & aptitude.	722	947	5	--	$40 to $395
Trade & Technical Schools	9	Chapter 345, ORS.	Printing-Drafting-Transmission-Elec. Tech. Eng. Tuneup. Auto Body & Fender Rpr. Groc. Checking-Meat Cutting. Bartending-Cocktail Hostess. Nursing Aides.	16 yrs. of age. Physically capable. No requirements. High school diploma. Mechanical experience.	458	1422	9	--	$165 to $1400
TOTALS	118				25,878(6) 7,154(7)	11,551(6) 8,823(7)	61	57	

(1) Excludes 29 schls. that provide training for private pilot's license.
(2) Ore. Correction Inst. has 5-chair barber train. course by special permission of Board of Barber Examiners.
(3) 3 of the schls. included in this type offer some resident work but major portion of their operation is home study courses.
(4) Excludes 13 driver train. schls. that provide train. for behind-the-wheel instruction to persons learning to drive.
(5) Figures in parentheses represent resident enrollments and resident students completing courses.
(6) Includes home study enrollment and resident enrollments.
(7) Represents resident enrollment only.

TABLE 24

VOCATIONAL CURRICULA OFFERED AT
OREGON COMMUNITY COLLEGES, 1965-66

Curriculum 1	BMCC 2	COCC 3	CCC 4	LCC 5	PCC 6	STVCC 7	SWOCC 8	TVCC 9	UCC 10
Agriculture									
Agriculture-Mechanical								x	
Forester Aide		x				x			
Forestry Tech.			x	x					x
Livestock Tech.			x						
Technical Agriculture								x	
Business									
Accounting	x	x			x				
Business - Home Economics			x						
Business Management		x	x		x		x	x	
Data Processing					x				
General Office	x		x	x	x		x	x	x
Marketing and Distribution	x	x	x		x		x		
Secretarial/Stenography	x	x	x	x	x	x	x	x	x
Health									
Dental Assistant	x			x	x	x			
Dental Technician					x				
Medical Assistant						x			
Practical Nursing	x	x		x	x	x	x	x	
Technical									
Civil Structural	x		x	x	x	x	x		
Data Processing					x	x			
Electronic-Engineering	x	x	x	x	x	x	x		
Engineering (General)		x							
Forest Products						x			
Highway Engineering					x	x			
Instruc. Materials Tech.					x				
Mechanical Engineering						x			
Surveyor Technician						x			
Technical Drafting			x	x	x	x		x	x
Wood Industries							x		
Trade and Industrial									
Airframe & Powerplant Mech.				x					
Appliance Repair				x					
Automotive Body Repair	x	x		x					
Automotive Mechanics	x	x		x			x		x
Cabinetmaking				x					
Carpentry				x					
Diesel Mechanics				x					
Fire Protection						x			
Food Technology					x				
General Drafting						x	x	x	x
Ind. Electronics					x	x		x	
& Communications					x	x		x	
Industrial-Mechanical	x		x			x	x	x	
Law Enforcement	x		x	x			x	x	x
Machine Shop				x		x			
Marine Technology			x						
Radio Communications				x					
Radio & Television Serv.				x		x			
Welding					x	x			

TABLE 25

OSSHE[1] - APPROVED COLLEGE TRANSFER PROGRAMS EXPECTED TO BE AVAILABLE AT OREGON COMMUNITY COLLEGES - 1966-67

Program	Length of Programs Offered (Years)										
	BMCC	CCC[2]	COCC	CCC	LCC	MHCC	PCC	Salem	SWOCC	TVCC	UCC
1	2	3	4	5	6	7	8	9	10	11	12
Arts and Sciences:											
General Arts and Letters	2		2	2	2	2	2		2	2	2
English	2		2	2	2	2	2		2	2	2
Philosophy	1		2	1	1	1	2		2	1	1
Foreign Languages	2		2	2	2	2	2		2	2	
Speech	2		2	2	2	2	2		2	2	2
General Social Science	2		2	2	2	2	2		2	2	2
Anthropology	2		2	2	2	2	2		2		2
Economics	2		2	2	2	2	2		2	2	2
Geography	2		2	2	2	2	2		2	2	2
History	2		2	2	2	2	2		2	2	2
Political Science	2		2	2	2	2	2		2	2	2
Psychology	2		2	2	2	2	2		2	2	2
Sociology	2		2	2	2	2	2		2	2	2
General Science	1		2	2	2	1	2		2	2	2
Biology	1		1	1	1	1	1		1	1	1
Botany	1		1	1	1				1	1	1
Chemistry	1		1	1	1	1	1		1	1	1
Entomology	1		1	1	1				1	1	1
Geology			2							2	2
Mathematics	2		2	2	2	1	2		2	2	2
Microbiology	1		1	1	1				1	1	1
Physics			1	1	1		1		1	1	1
Zoology	1		1	1	1				1	1	1
Art	1		1	1	1	1	1		1	1	1
Music			2	2		1	1		2	1	2
Professional & Preprofessional:											
Agriculture	1		2	2	2		2		2	2	2
Architecture	1		1	1	1	1	1		1	1	1
Applied Science	1		1	1	1		1		1	1	1
Business Administration	2		2	2	2	2	2		2	2	2
Elementary Education	2		2	2	2		2		2	2	2
Secondary Education	2		2	2	2	2	2		2	2	2
Engineering	1		1	1	1		1		1	1	1
Home Economics	1		1	1	1	1	1		1	1	1
Interior Architecture	1		1	1	1	1	1		1	1	1
Journalism	2		2	2	2	2	2		2	2	2
Landscape Architecture	1		1	1	1	1	1		1	1	1
Pre-Applied Science	1		1	1	1	1	1		1	1	1
Pre-Engineering	1		1	1	1	1	1		1	1	1
Pre-Dentistry	1		1	1	1		1		1	1	1
Pre-Forestry	1		1		1					1	1
Pre-Law	2		2	2	2	2	2		2	2	2
Pre-Medical Technology	1		1	1	1	1	1		1	1	1
Pre-Medicine	1		1	1	1		1		1	1	1
Pre-Nursing	1		1	1	1	1	1		1	1	1
Pre-Pharmacy	1		1	1	1		1		1	1	1
Secretarial Science			2			2	2		2	2	

[1] Oregon State System of Higher Education

[2] Clackamas Community College was approved by the voters May 24, 1966. The college hopes to offer a limited number of transfer courses during 1966-67. The programs which will be available have not been determined at the date of this writing (August, 1966).

TABLE 26

TECHNICAL PROGRAMS[1] OFFERED BY INSTITUTIONS OF THE STATE SYSTEM OF HIGHER EDUCATION 1966-67

	Institution								
Program	OSU	UO	PSC	OCE	SOC	EOC	OTI	UO MS	UO DS
1	2	3	4	5	6	7	8	9	10
Four Years									
Civil Engineering Technology	x								
Electric Power Technology	x								
Mechanical Technology	x								
Mechanical Technology in Agriculture	x								
Medical Laboratory Technology[2]							x		
Production Technology	x								
Two - Three Years									
Accounting Technology							x		
Automotive Mechanics Technology							x		
Automotive Tune-up Technology							x		
Dental Assistant Technology							x		
Dental Hygiene									x
Diesel Technology							x		
Electro-Mechanical Engineering Technology							x		
Electronics Engineering Technology							x		
Engineering Drafting Technology							x		
Highway Engineering Technology							x		
Machining Processes Technology							x		
Mechanical Engineering Technology							x		
Medical Radiologic Technology							x	x	
Office Machines Technology							x		
Secretarial Science Technology							x		
Small Arms Processes Technology							x		
Structural Engineering Technology							x		
Surveying Engineering Technology							x		

---

[1] In addition to the programs listed in this table, SOC offers two-year programs in Merchandising, Medical and Dental Receptionist, and Secretarial Science. EOC offers a two-year program in Secretarial Science with an option in medical and dental receptionist training. Both institutions offer one-year secretarial science programs. These curricula, combining liberal arts and vocational training, are not technical programs.

[2] The cooperative program in medical technology offered by the system's multipurpose institutions and the University of Oregon Medical School is listed in Table 27, p. 101.

TABLE 27

PROFESSIONAL PROGRAMS OFFERED BY INSTITUTIONS OF THE STATE SYSTEM OF HIGHER EDUCATION 1966-67

Program	Institution								
	OSU	UO	PSC	OCE	SOC	EOC	OTI	UO MS	UO DS
1	2	3	4	5	6	7	8	9	10
Agriculture	x								
Architecture		x							
Art		x							
Business	x	x	x		x				
Community Service and Public Affairs		x							
Education	x	x	x	x	x	x			
Engineering	x								
Forestry	x								
Home Economics	x								
Journalism		x							
Law		x							
Music		x							
Pharmacy	x								
Physical Education		x	x						
Recreation		x							
Cooperative Programs									
Dental Hygiene	(					)			x
Nursing	(			preprofessional programs		)		x	
Medical Technology	(					)		x	
Veterinary Medicine[1]	(					)			
Physical Therapy[2]					x				

---

[1] Professional work completed at Colorado State University, Washington State University, or University of California at Davis under Western Interstate Commission for Higher Education compact.

[2] Fourth year completed at Children's Hospital of Los Angeles.

TABLE 28

PREPROFESSIONAL PROGRAMS AVAILABLE AT STATE SYSTEM INSTITUTIONS AS LISTED IN 1966-67 CATALOGS

	Number of Years in Preprofessional Program					
Program	OSU	UO	PSC	OCE	SOC	EOC
1	2	3	4	5	6	7
Agriculture			1	1	1	2
Architecture	2		2	1	1	1
Art/Applied Design			2	1		1
Business				2		2
Dentistry	2-3	2-3	3	3	3	2-3
Engineering			2	1	1	2
Forestry			1	1	1	1
Home Economics		2	2	1	2	2
Industrial Arts				1		1
Journalism	2		2	2	2	2
Law			3	3	3	3
Medicine	3	3	3	3	3	3
Medical Technology	3	3	3	3	3	3
Ministry					3	
Music				2		2
Nursing	1	1	1	1	1	1
Occupational Therapy	3[a]					
Optometry	2[a]					
Pharmacy		1	1	1	1	1
Physical Education				1		2
Physical Therapy	3[a]	3[a]			3	
Social Work					4	
Veterinary Medicine	2		3	2	3	2

[a] Institution will develop preprofessional programs to meet individual student needs.

TABLE 29

UNDERGRADUATE LIBERAL ARTS PROGRAMS OFFERED BY INSTITUTIONS OF THE STATE SYSTEM OF HIGHER EDUCATION 1966-67

Program	Institution					
	OSU	UO	PSC	OCE	SOC	EOC
1	2	3	4	5	6	7
Anthropology		x	x			
Applied Science			x			
Applied Design					x	
Art	x	x	x			
Asian Studies		x				
Biology		x	x		x	x
Botany	x					
Central European Area Studies			x[1]			
Chemistry	x	x	x		x	
Earth Science			x			
Economics	x	x	x			
English	x	x	x		x	x
Entomology	x					
French		x	x			
General Arts and Letters	x	x	x	x	x	x
General Science	x	x	x	x	x	x
General Social Science	x	x	x	x	x	x
German		x	x			
Geography	x	x	x			
Geology	x	x				
Greek		x				
History	x	x	x		x	x
Italian		x				
Latin		x				
Latin American Area Studies		x	x[1]			
Law Enforcement			x[1]		x[1]	
Mathematics	x	x	x		x	
Microbiology and Hygiene	x					
Middle East Area Studies			x[1]			
Music		x	x		x	
Philosophy		x	x			
Physics	x	x	x			
Political Science	x	x	x			
Psychology		x	x			
Public Health			x[1]			
Russian		x	x			
Russian Studies	x					
Sociology		x	x			
Spanish		x	x			
Speech and Theater	x	x	x		x	
Urban Studies			x[1]			
Zoology	x					

[1] Program of specialization completed in conjunction with a regular degree program.

- in the two universities (OSU - agriculture, business and technology, education, engineering, forestry, home economics, pharmacy; UO - architecture and allied arts, community service and public affairs, business, education, health, journalism, law, music, nursing, physical education and recreation)

- to master's degree programs in all these fields and in some others (social work at PSC), and to doctoral programs in some (See Table 36, pp. 153, 154 for listing of graduate programs available in each institution.)

- Preprofessional programs are offered in some fields (e.g., agriculture, architecture, business administration, law, etc.) in institutions not having a professional program in the field (Table 28). Upon completion of the pre-professional program, the student is encouraged to transfer to the institution having the professional program in which he is interested.

- In the liberal arts (humanities, social sciences, and sciences), offerings range from baccalaureate divisional/departmental major programs in all of the multi-purpose institutions to doctoral and postdoctoral work in these same fields available in the sciences at Oregon State University and in the humanities, social sciences, and sciences at the University of Oregon (Table 29).

The state system programs have developed under a system of curricular allocations administered under the direction of the State Board of Higher Education. The board, from its inception in 1929, has consistently held the view that there should be available at all of its four-year institutions (strategically located throughout the state) a program of general education available to all who are admitted; that beyond this program of general education, the curricular programs of the institutions should be tailored to the needs of the state in such fashion as to avoid wasteful and unwise duplication of curricula, particularly in the professional and graduate areas. Initially (1932), that commonality of general education was held by the board to be a two-year program in the humanities, social sciences, and sciences.

However, the board has, for a number of years now, affirmed that cultural education for life in the modern world requires the extension of general education offerings in the liberal arts up through four years of college. Hence, at present (1966), general education in the state system institutions is presently provided at the three regional institutions (SOC, OCE, and EOC) through baccalaureate divisional major programs in the three broad areas of humanities, social science, and science, and SOC and EOC offer departmental major programs in seven and three subject-matter areas, respectively; at OSU through divisional major programs in the humanities and social sciences, and departmental major programs in the sciences and selected departments in the humanities and social sciences. At the University of Oregon and Portland State College, baccalaureate departmental major programs in a wide variety of departments in the humanities, social sciences, and sciences are available.

The divisional major programs emphasize a general and integrated approach to learning with the student's major program broadly inclusive of work in several of the subject matter fields encompassed within the specific division within which the student's program lies (humanities, social science, or science). This broad fields program was initiated in the regional schools and at OSU in the humanities and social sciences as an expression of the need for general education, without a need, at the time, in those institutions for the specialization represented by departmental major programs available initially in the sciences at Oregon State University and the University of Oregon, and in the various departments of the humanities and social sciences at the University of Oregon.

Decisions made by the Board of Higher Education, beginning with the adoption of the state system guidelines in September, 1962, and continuing in the specific curricular decisions beginning in 1965, indicate the intention of the board to make available at all of the four-year multi-purpose institutions in the state system baccalaureate departmental major programs in the various departmental areas within the humanities, social sciences, and sciences, as well as to continue the offering of the divisional majors in the humanities, social sciences, and sciences in those institutions desiring both kinds of programs. Specific steps toward this goal were taken in 1965 and 1966 curricular decisions in which the board authorized OSU baccalaureate departmental major programs in six humanities and social science fields, SOC departmental majors in seven fields, and EOC departmental majors in three fields. It appears as if, as the resources of the state system and the institutions permit, and as the needs require, it may be anticipated that the number of departmental fields in which OSU, SOC, and EOC are authorized departmental major programs will be increased.

Two other recent curricular decisions of the Board of Higher Education should be noted as representing a marked departure from the past. (1) At its January 1966 meeting, the board took action signifying its intention to authorize Oregon Technical Institute, which up to that time had been authorized to offer only two- and three-year associate degree programs, to offer four-year baccalaureate degree programs to carry the title bachelor of technology. It authorized the offering of the bachelor of technology degree in medical technology effective in 1966-67, and indicated that, as OTI is able to mount acceptable baccalaureate programs in other technical areas, the board will consider authorizing such programs in other fields. (2) Also at the January 1966 meeting, the board authorized OSU to offer, effective 1966-67, three four-year baccalaureate, terminal programs in technology, and implied its intention to authorize OSU to offer additional four-year technology programs, as the need and resources permit. In doing so, the board acknowledged that OSU has a more important role to fill in technical education than it is currently filling.

Independent Colleges and Universities

Independent colleges in Oregon offer almost no programs in technology, the single exception being the medical technology programs offered by several of the institutions in conjunction with hospital or laboratory schools.

The independent colleges and universities do, however, offer a wide range of undergraduate programs in the liberal arts leading to baccalaureate degrees. The independent colleges in particular, in contrast to the independent universities, have restricted their undergraduate degree programs almost wholly to the various subject matter fields of the humanities, social sciences, and sciences (Table 30). In short, the independent colleges offer relatively few baccalaureate programs in professional fields, beyond those for teachers (business administration at Cascade, Lewis and Clark, and Linfield; journalism at Lewis and Clark and Linfield; law at Lewis and Clark). The independent universities, however, offer, in addition to undergraduate liberal arts programs, a number of baccalaureate programs in professional areas (i.e., accounting, business administration, education, engineering, industrial administration, and nursing at the University of Portland; education, industrial accounting, business, health and physical education, journalism, and optometry at Pacific University; secondary education, physical education, and law at Willamette University).

Categories of Post-High School Educational Programs in Oregon

In the section immediately preceding, we have briefly discussed the various institutional elements of the post-high school educational structure in Oregon with principal attention to: (1) the proprietary (private) trade schools, (2) the community colleges, (3) the institutions of the State System of Higher Education, and (4) the independent colleges and universities.

We propose now to examine the interrelationships of the foregoing institutional elements in the state's educational structure, as they operate in the various segments of the post-high school programs, namely: (1) occupational (vocational-technical) education, (2) liberal arts programs, and (3) adult education.

TABLE 30

BACCALAUREATE DEGREE PROGRAMS OFFERED BY
INDEPENDENT COLLEGES AND UNIVERSITIES
1965-66

Program 1	Cascade 2	George Fox 3	Lewis & Clark 4	Linfield 5	Marylhurst 6	Mt. Angel 7	Pacific 8	Reed 9	U of Portland 10	Warner Pacific 11	Willamette 12
Accounting									x		
Art			x	x	x	x	x	x^1	x^1	x	x
Biology	x	x	x	x	x		x	x		x	x
Business Administration	x		x	x			x		x		
Chemistry			x	x	x		x	x	x		x
Communication Arts			x						x		
Creative Arts						x					
Drama			x	x		x	x		x		
Economics	x		x	x			x	x	x	x	x
Education			x	x	x			x	x	x	
Education, Elementary	x^1	x^1	x		x	x	x	x	x		
Education, Secondary	x		x		x		x		x		x
Engineering			x^1					x^1	x		x^1
Engineering Science									x		
English	x		x	x	x	x	x	x	x	x	x
Finance									x		
Foreign Languages		x	x		x		x	x	x	x	
Forestry								x^1			x^1
French			x	x	x			x	x		x
General Science	x								x		
German			x	x		x		x	x		x
Gerontology						x					
Health and Physical Education			x	x	x		x			x	x
History	x	x	x	x	x	x	x	x	x	x	x
Home Economics				x	x						
Industrial Administration									x		
International Affairs			x								
Journalism			x	x			x				
Law			x								
Literature							x				
Marketing									x		
Mathematics		x	x	x	x	x	x	x	x	x	x
Medical Technology			x^1		x^1	x^1	x^1		x		
Music	x	x	x	x	x		x	x	x	x	x
Music Education			x		x		x		x		x
Nursing				x^1			x^1		x		
Optometry							x				
Philosophy			x	x			x	x	x	x	x
Physical Sciences										x	

TABLE 30 - (Continued)

Program 1	Cascade 2	George Fox 3	Lewis & Clark 4	Linfield 5	Marylhurst 6	Mt. Angel 7	Pacific 8	Reed 9	U of Portland 10	Warner Pacific 11	Willamette 12
Physics			x	x			x	x	x		x
Political Science			x	x			x	x	x	x	x
Prelaw			x	x				x	x		
Premedicine			x	x				x	x		
Psychology	x	x	x	x			x	x	x	x	x
Religion	x	x	x	x			x				x
Social Science	x	x							x		x
Sociology		x	x	x	x	x	x	x	x	x	x
Spanish	x		x	x	x	x		x	x		x
Speech	x		x	x			x		x	x	x
Theology					x					x	

---

[1] A portion of the program needed for achievement of the degree is available at the designated institution and the remainder is acquired elsewhere.

Source: Independent colleges and universities.

Vocational-Technical Occupational Education and Training

Occupational education and training encompass preparation for a wide range of positions extending from the semi-skilled on the one hand, to the semi-professional on the other. On this continuum of occupational training, that education and training which prepares the individual for semi-skilled and skilled occupations is often referred to as "vocational" education, as distinct from "technical" education, which prepares the individual for semi-professional or technical positions. At the point on this occupational continuum at which "vocational" education and training and "technical" education and training join, it is not always easy to differentiate the two. Perhaps it is not profitable even to try. But Emerson[1] endeavors to give some indication of the differences by citing the titles of skilled craftsmen in the construction field (products of "vocational" education and training) and those of technicians in the construction field (products of "technical" training) as follows:

Skilled Craftsmen	Technicians
Bricklayer	Architectural draftsman
Stonemason	Structural draftsman
Tilesetter	Topographical draftsman
Plasterer	Estimator
Painter	Building Inspector
Plumber	Specification Writer
Welder	Technical equipment installation supervisor
Steam fitter	

In an effort further to clarify the role of the technician from that of the skilled craftsman, Emerson says:

> One method of comparing groups of occupations within industry is to consider the relative amounts of physical effort and mental effort demanded from the worker. In some occupations the worker devotes most of his time and energy to manipulative work with materials, tools and machines. Other occupations consist more largely of mental effort. The skilled craftsman gives most of his energy to manipulating the tools of his trade. The engineer, on the other hand, spends most of his time thinking through his various problems. Between these extremes lie the occupations which have come to be known as technician jobs, which usually involve some manipulative work along with a considerable amount of mental effort.
>
> . . . .
>
> A rough measure that may be useful to distinguish between them /between skilled craftsmen and technicians/ is to designate the occupation as of technician character if the worker spends more than half his time in tasks that are mental rather than manipulative.[2]

Further, within the technician field, Emerson divides technical occupations on the basis of the following general descriptive terms: narrow scope, limited level technical occupations, technical specialist occupations, industrial technician type occupations, and engineering technician type occupations. Figure IX, p. 109, is Emerson's effort graphically to present these various categories of technician jobs.

Harris, speaking of this range in technical occupations, says:

> There is a wide range of technical occupations. Many technicians work at highly sophisticated levels in research, design, and prototype production.

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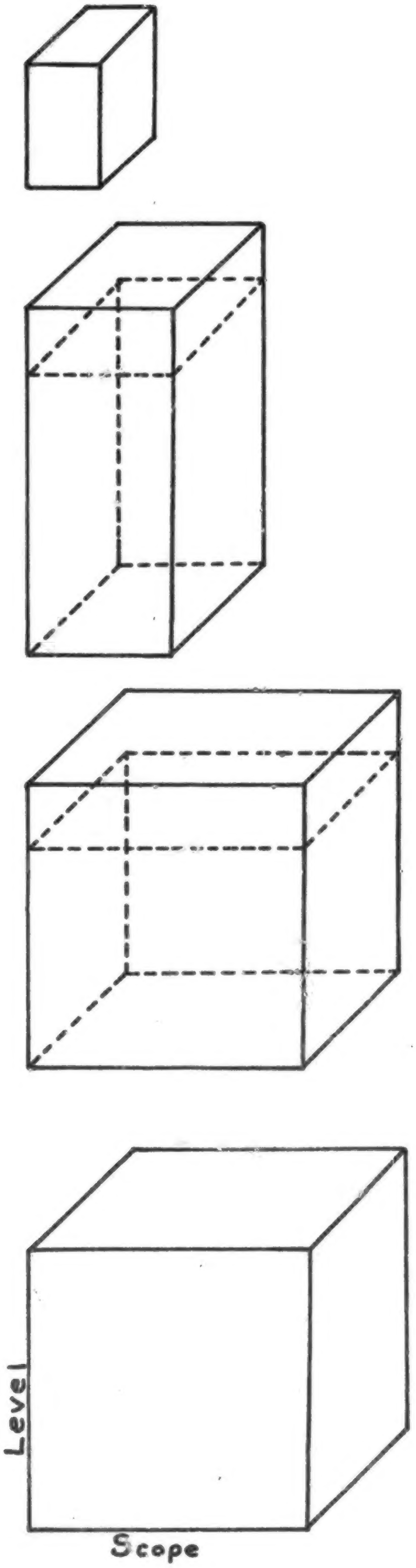
[1] Emerson, op. cit., p. 2.

[2] Emerson, op. cit., pp. 1-2.

FIGURE IX

TYPES OF TECHNICAL OCCUPATIONS IN INDUSTRY



A. Narrow-scope limited-level technical occupation, requiring simple technical skills and a relatively short learning period. Not considered a "technician" occupation.

B. Technical specialist occupation, with somewhat narrow scope but high level of ability needed within that scope. Training period usually shorter than that required for "industrial-type technician" and "engineering-type technician."

C. Industrial-type technician occupation, usually of fairly broad scope and high level of ability needed. Training period needed may approximate or equal that for the "engineering-type technician." Training content may include less higher mathematics but more applied technology than that for the engineering-type technician. Occupations of this type may include technical maintenance jobs of broad scope, technical production jobs, and the like.

D. Engineering-type technician occupation, of broad scope and high level of ability needed, usually requiring training equivalent to a two-year full-time program of post-high school level, rigorous in nature, including mathematics, science, and applied technology pertinent to the field of specialization. Persons in these occupations have sufficient background to be able to work effectively as aides to engineers and scientists.

Source: Emerson, op. cit., p. 5.

> Theoretical knowledge approaching that of the professions, combined with some practical "know-how" about instruments, tools and laboratory equipment, is required for such work. Men and women in these jobs are coming to be called "semiprofessional technicians," and college level educational programs are required for their education.
>
> At the other end of the technical job spectrum are those occupations which demand a high degree of manual skill and ingenuity, but require only a modest background in science, mathematics, and technical theory. Persons who hold these jobs are commonly called "highly skilled technicians." Many persons reach this level through on-the-job or armed services training programs, and a few via technical high schools and vocational schools, but the main avenue of the future will probably be through junior colleges and technical institutes since college study will be increasingly required in the future.[1]

Figure X, page 111, is a graphical representation of these relationships taken from Harris.

Commenting on the same topic, the American Society for Engineering Education observes:

> The level at which a technical program is cast depends largely on the type of position for which the graduates are being educated. In the early years of the technical education movement, it may have been assumed that the range of positions between the craftsman and the engineer was narrow enough for a single level of curricula to prepare students to occupy positions throughout the entire range. This can no longer be taken for granted.
>
> . . . .
>
> Some technical educators have suggested that two levels of technicians be recognized and that one level be called the engineering technician and the other level the industrial technician or the highly-skilled technician. It may well be that there is need for even further division of the range.[2]

Finally, we refer to Emerson's efforts to distinguish the role of the technician from that of the skilled worker or the engineer by reference to the character of the training required for those in these three levels of occupations.

> Many training programs for the skilled crafts are now operating on the post high school level, and a comparison of a curriculum for this field with one for the training of technicians may be in order. The skilled crafts curriculum emphasizes shop activities, and the objective is to develop the manipulative skills needed for the craft, together with the technical knowledge and understanding required for performing the skilled tasks. The level of mathematics, science, and technology needed is lower than that of the technician occupation, and these subjects are taught in direct relation to the shop activities. A rough comparison between skilled craft and technician curriculums is shown in Figure 8 /See Figure XI in this document/, which compares a selected program in machine shop practice on the post high school level with the average content distribution in 12 selected curriculums in mechanical technology. In the mechanical technology program the student gets some experience in the

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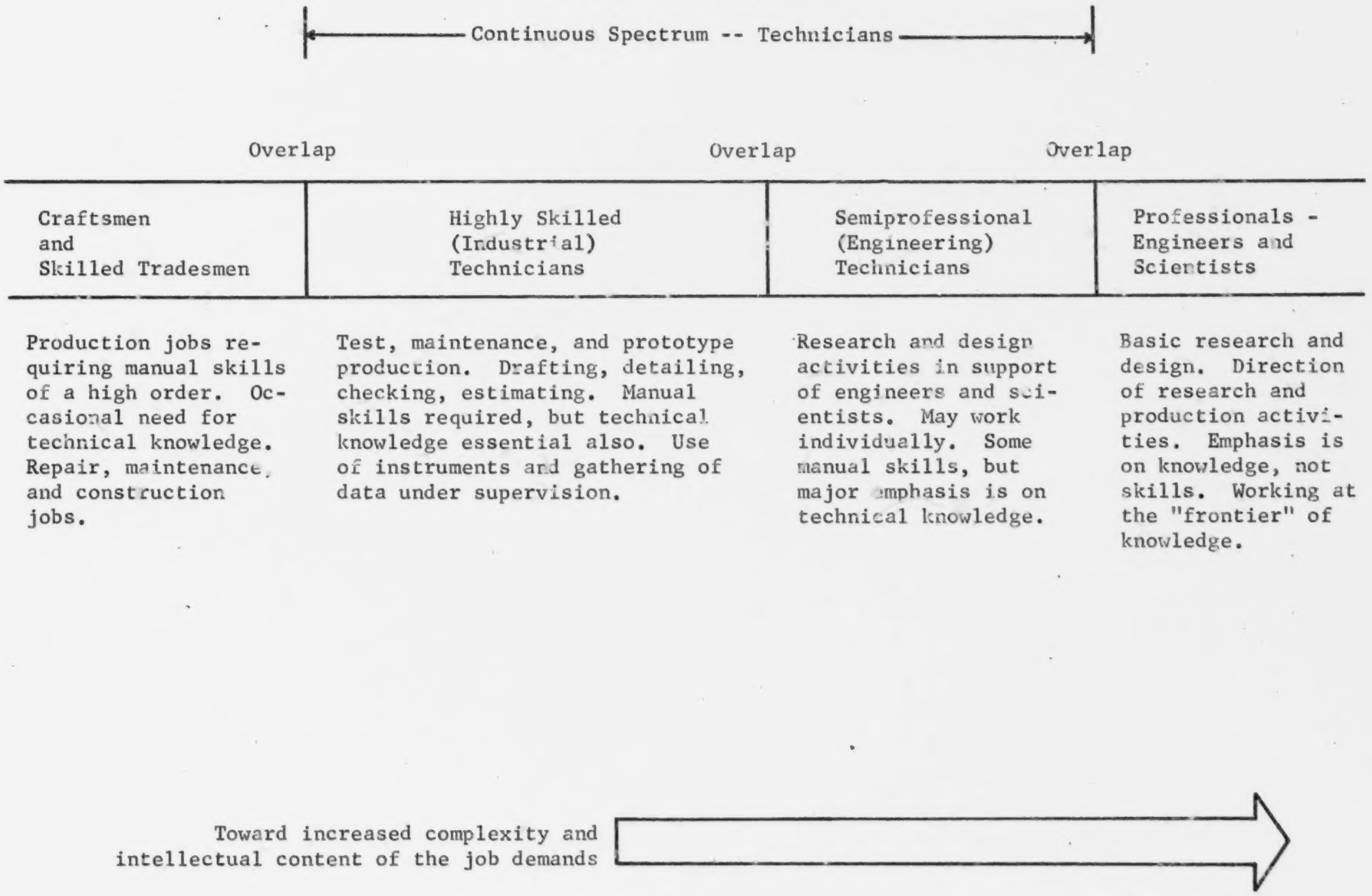
[1] Norman C. Harris, op. cit., p. 35.

[2] American Society for Engineering Education, Characteristics of Excellence in Engineering Technology Education, Final Report of the Evaluation of Technical Institute Education (Urbana, Ill.: University of Illinois, 1962), p. 14.

FIGURE X

THE SPECTRUM OF TECHNICAL JOBS



Continuous Spectrum -- Technicians
Overlap
Overlap
Overlap
Toward increased complexity and intellectual content of the job demands

Craftsmen and Skilled Tradesmen	Highly Skilled (Industrial) Technicians	Semiprofessional (Engineering) Technicians	Professionals - Engineers and Scientists
Production jobs requiring manual skills of a high order. Occasional need for technical knowledge. Repair, maintenance, and construction jobs.	Test, maintenance, and prototype production. Drafting, detailing, checking, estimating. Manual skills required, but technical knowledge essential also. Use of instruments and gathering of data under supervision.	Research and design activities in support of engineers and scientists. May work individually. Some manual skills, but major emphasis is on technical knowledge.	Basic research and design. Direction of research and production activities. Emphasis is on knowledge, not skills. Working at the "frontier" of knowledge.

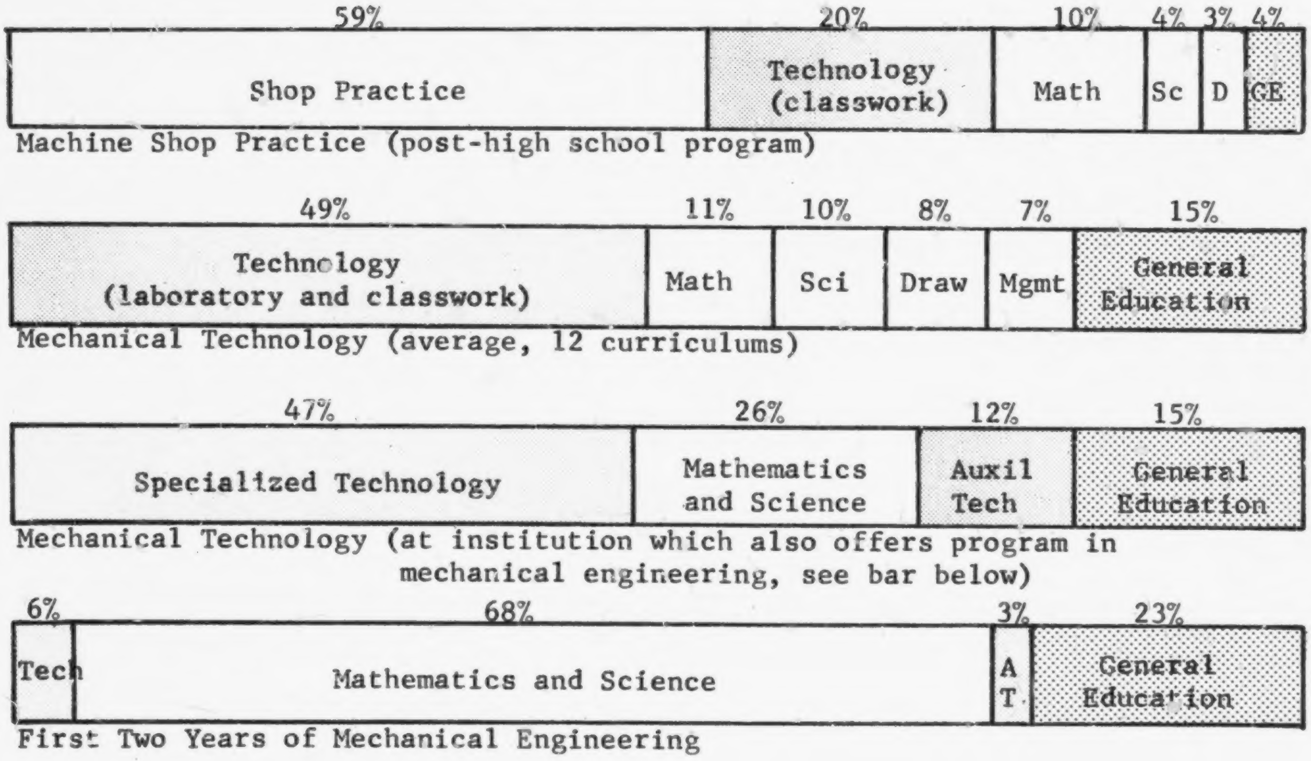
Source: Norman C. Harris, op. cit., p. 36.

machine shop, but the primary purpose of such instruction is the development of understanding of machine processes rather than the development of skills in machine operation.[1]

The technical institute type curriculum differs materially from the first two years of an engineering curriculum with which it is often confused. Roney (60) points out these differences, and shows striking contrasts in the proportion of specialized technical courses, and of mathematics and science. The data are shown in graphic form in Figure 7 /See Figure XI in this present document/.[2]

FIGURE XI

COMPARISON OF CURRICULUM CONTENT DISTRIBUTION IN
MACHINE SHOP PRACTICE, MECHANICAL TECHNOLOGY, AND
FIRST TWO YEARS OF MECHANICAL ENGINEERING



Source: Emerson, op. cit., pp. 66-67.

Present and Potential Demand for Technicians

There appears to be general agreement that technological change has resulted in an increasing demand for trained technicians in a wide variety of fields. Automation, aero-space developments, nuclear energy, and data processing are cited by Emerson as being four of the areas of change having greatest impact on the need for technicians. At the same time, it is noted, "the older fields of industrial activity are also changing, with increased emphasis on more highly developed technology."[3]

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[1] Emerson, op. cit., p. 67.
[2] Ibid., p. 66.
[3] Ibid., p. 19.

A number of efforts have been made to quantify the extent of the demand for technicians in the years just ahead. Since a number of these estimates are based upon the same basic study done by the Bureau of Labor Statistics for the National Science Foundation, it is not surprising that there are similarities in the estimates.

Emerson, after reviewing the results of the Bureau of Labor Statistics study prepared for the National Science Foundation concludes by saying that ". . . the indicated needs call for a ratio of at least 2 to 1 between technicians and engineers, or a total of some 200,000 technicians needed annually in the years immediately ahead."[1]

In his report for the American Association of Junior Colleges, Harris asserts that these jobs in "middle level manpower," considered in the aggregate, will account for nearly 30 percent of the labor force by 1970.[2]

In a report written for the American Council on Education, it is said that:

> By 1970 the technical, highly skilled occupations will account for more than half of all job opportunities.
>
> In numbers, this occupational area is the most significant in employment growth in the economy. It is this area to which young as well as older workers must look for jobs in the expanding economy of the new technology.
>
> Not only do we need more people moving into skilled and technical occupations but the right kind of people: not potential engineers, not potential mechanics, but those whose ability and aptitude suit them best for this level of work. In an economy which allows fewer mistakes and in which an intelligent and systematic matching of our human talents and manpower requirements becomes crucial, the best middle-level manpower must be sought out and developed, be it age twenty-one or fifty-one, white or Negro, male or female, rural or urban, wealthy or poor.[3]

Pointing out that many studies indicate that the minimum desirable ratio of technicians to scientists and engineers is 2 to 1, rather than .7 to 1, the council study estimates that to achieve the 2 to 1 ratio, we would have to graduate some 200,000 technicians annually in the years immediately ahead.

More conservative government estimates, the council notes, indicate actual employment opportunities for at least 100,000 additional technicians per year over the next decade.[4]

Estimates are that over the past few years, about 50,000 people annually have been entering the science- and engineering-related technical occupations. The council study estimates that half of these were graduates of organized technical curricula within the educational system, and half came from other sources. The council study assumes that technician output from "other sources" cannot be expected to increase and that, in order to meet the minimum goal of 100,000 new technicians a year, the educational system must triple its present effort.

How Technicians Get Their Training

The sources of training for admission into technician occupations are numerous and varied. They can all be classified, however, under two headings, namely "post-high school institutions" and "other sources." We turn first to the latter source.

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[1] Ibid., p. 36.
[2] Norman C. Harris, op. cit., p. 47.
[3] Venn, op. cit., p. 135.
[4] Ibid., p. 133.

"Other Source" Routes into Technician Occupations

Venn estimates that of the roughly 50,000 people who have been entering the science- and engineering-related technical occupations annually in recent years, roughly one-half were graduates of organized technical curricula, and the remainder came from "other sources."[1]

Some of these latter have come up through the ranks of skilled crafts or skilled trades through extension correspondence work, according to Venn. In some fields, such as electronics, many technicians have been trained in schools operated by the Armed Forces. Others are the products of training programs offered in industry. Still others, according to Venn, are engineering drop-outs, or engineering graduates on their way to engineering positions. And finally, there are apprentice programs in a few technical fields.

Venn predicts that since it is not anticipated that the production of technicians by these "other sources" will increase, the responsibility of meeting the increasing demand for trained technicians must fall upon the educational institutions.

> If we estimate that some 25,000 people a year travel these routes into the technical occupations, we should understand also that their number is not likely to grow. The Armed Forces, for example, are making a determined effort to cut down the attrition rate among the servicemen they have trained. The problem of dropouts from engineering curricula is also being attacked. The apprenticeship programs, small enough to begin with, are losing ground steadily. Industry has shown little inclination, nor in many cases does it have the ability, to provide the necessary technical training. Thus, while the very shortage of technical personnel makes it imperative that these avenues to technical employment be kept open, it is fatuous to suggest that, taken together, they can meet the needs for technical manpower in the future. The only hope for providing the quantity of technical manpower needed lies with the educational system [2]

We turn, then, to a consideration of the avenues leading to technician occupations through organized technical curricula available in post-high school educational institutions.

Technical Education in Post-High School Institutions

There is no single pattern of institutional responsibility for post-high school technical education common to all the states. In technical education, as in other fields of education, diversity is the hallmark. The educational institutions in which post-high school technical education is most commonly provided in the United States are: (1) area vocational or vocational-technical schools, (2) technical institutes, (3) two-year colleges, (4) four-year colleges and universities.

Post-High School Vocational-Technical Education in Oregon

Post-high school vocational-technical education is made available in Oregon principally through: (1) proprietary (private) vocational schools, (2) apprentice-training programs, (3) community colleges, and (4) state system institutions.

We shall not here further discuss the proprietary schools which are discussed in Chapter VII.

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[1] Ibid., p. 133.
[2] Ibid., p. 134.

Apprenticeship Training

Since ORS 660 authorizes individuals 16 years of age and older to enter apprenticeship agreements, it is apparent that the apprenticeship program cannot, in its entirety at least, be referred to as post-high school vocational education. However, since many who enter apprenticeship agreements under the law are older than the minimum age, and since the apprenticeship program usually extends from two to four years, and sometimes longer, we feel justified in including this category of training under the heading "post-high school."

Apprenticeship programs are one of the oldest forms of training by which individuals develop occupational competence. An apprenticeship agreement, in writing, is required in Oregon, binding the apprentice and his employer for the duration of the apprenticeship agreement in accordance with the trade or craft standards. Under the terms of these agreements, the employer customarily agrees to provide the training and to pay the apprentice a progressively increasing wage, to be agreed upon and approved by the appropriate apprenticeship committee.

There is no need here to describe in detail the various provisions of the law relating to the nature of the agreement to be arrived at between the apprentice and his employer, or the role of the State Apprenticeship Council or of the local apprenticeship committees.

It serves our purpose only to note that the State Department of Education and the community colleges have responsibility under ORS 660.160 to provide related instruction for apprenticeship programs. This relationship is discussed in some detail in Chapter VIII.

It should be observed that nationally apprenticeship as a method of providing vocational training has fallen off rather sharply in the past decade, "reflecting the long-term decline in this mode of training," according to Venn. Apprenticeship registrations nationally dropped from 230,823 in 1950 to 158,616 in January 1963.[1] Venn estimates that the formal apprenticeship programs will supply only a small proportion, at best 12 percent, of the total skilled manpower needed during the present decade.[2] He concludes: ". . . it appears today that only one in ten skilled workers will have any contact with apprenticeship programs in learning a skilled trade. The vast majority of skilled manpower must obtain its occupational preparation either on the job or in school."[3]

We believe Venn's final sentence above, is a fair description of the situation which will prevail in Oregon in the years just ahead.

Vocational Technical Education in Community Colleges

Community colleges in Oregon are involved in the offering of (1) vocational programs in conjunction with apprenticeship program in Oregon and (2) vocational-technical programs independent of the apprenticeship program.

The community colleges' relationship to apprenticeship programs in Oregon is seen in the following guises:

- Under ORS 660.160 the community colleges, in cooperation with the State Department of Education, have the responsibility of providing related instruction for apprentices enrolled in the state apprenticeship programs and employed or living in the colleges' service areas. This responsibility includes providing for suitable facilities, training and employing instructors, coordination of the related instruction with the job instruction, and supervision and evaluation of the related instruction. In carrying out these responsibilities, college personnel work with the staff of the State Apprenticeship Council and with the various local trade apprenticeship committees, the latter committees serving in an advisory capacity to the colleges in the conduct of the related instruction.

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[1] *Ibid.*, pp. 104-105. [2] *Ibid.*, p. 105. [3] *Ibid.*

- Staff members of the State Apprenticeship Council and of the Federal Bureau of Apprenticeship and the local apprenticeship committees may also cooperate with the colleges in identifying and providing for vocational instruction needed to maintain or upgrade the job competencies of journeymen and other workers in the various trades and industrial occupations.

- Colleges may also offer programs of instruction specifically designed to serve a pre-apprenticeship function. In this type program the appropriate local apprenticeship trade committee serves as the institution's occupational advisory committee and functions directly in the placement of students completing the program.

- A more indirect relationship between the colleges and the apprenticeship program exists in the area of occupational preparatory programs. Since some curricula prepare students for employment in apprenticeable occupations, one logical job placement for graduates is in an apprenticeship program. Areas of cooperation between apprenticeship and college personnel include consultation in determining instructional content, determination of employment opportunities, placement of graduates, and determination of appropriate credit on the apprenticeship.

The specific vocational and technical offerings of the community colleges are shown in Table 24, page 98. It will be observed that, of the vocational curricula offered by five or more of the nine community colleges having such programs in 1965-66, the bulk are classified under "Business" or "Technical." There were 12 vocational-technical programs offered by five or more of the nine community colleges reporting, and, of these, five were business programs (stenography, general office, secretarial, business management, and marketing and distribution), and three were categorized as technical (electronic-engineering technology, technical drafting, and civil structural technology). The remaining four programs, of the foregoing total of 12, were: practical nursing, law enforcement, automotive mechanics, and industrial-mechanical.

Vocational-Technical Education in Institutions of the State System

The technical programs offered by the institutions of the Oregon State System of Higher Education are shown in Table 26, page 100. The institutions shown as offering technical programs are: Oregon Technical Institute, Oregon State University, and the University of Oregon Medical and Dental schools.

Oregon Technical Institute

A rather detailed analysis and discussion of the Oregon Technical Institute program and the clientele it serves is presented in a document issued by the Oregon State Board of Higher Education January 24-25, 1966, entitled An Analysis and Discussion of the Oregon Technical Institute Program. We commend the foregoing document to those readers who desire more detail concerning OTI than is here presented.

OTI Limited to Subbaccalaureate Technical Programs Until 1966-67

Oregon Technical Institute is the one single-purpose institution in the State System of Higher Education charged with the principal responsibility for developing and maintaining subbaccalaureate technical educational programs. It was limited to this curricular allocation until the action of the State Board of Higher Education in

January, 1966, as we shall shortly see. In the state system guidelines (adopted by the board in September, 1962), Oregon Technical Institute was characterized as follows:

> Oregon Technical Institute is a specialized institution designed to provide opportunity for study in technical areas of selected curricula including opportunities both for graduates of high schools and for students who have had some technical preparation.

Referring to this responsibility of OTI's for subbaccalaureate technical programs, the Oregon Technical Institute catalog for 1965-66 says:

> Oregon Technical Institute is a polytechnic college with comprehensive coverage serving the State of Oregon principally in the areas of engineering technology, science technology, business technology, medical and dental technology, and certain other specialty fields. Its curricular programs complement the offerings of the other institutions in the system of higher education and supplement many of the offerings of the various community colleges of the state.
>
> The philosophy of the technical institute is that for every young person who has the capacity, incentive, and resources to pursue technological education to a bachelor's or more advanced degree, there are the many who have the right capacities, interests, and aptitudes to develop productive and rewarding careers in the expanding realm of applied science and in the technologies which neither require nor justify four or more years of collegiate study.

Technical Programs Developed by OTI Under Its Curricular Allocations

Under the curricular allocations given it by the Board of Higher Education, OTI has developed two- and three-year technical programs in a variety of fields of such quality as to secure for OTI accreditation, in 1962, by the Northwest Association of Secondary and Higher Schools, as a specialized school. During its evolution OTI has sought continuously to upgrade its programs, its staff, and its facilities. Over the more than 20 years OTI has existed in one form or another, it has eliminated 20 programs and added others, in the interests of upgrading its offerings. In 1965-66 OTI offered programs in 18 different technologies, all of which programs are two years in length, with the exception of the program in medical technology, which is a three-year program, and the X-ray technology program, which requires two years at OTI and one year's internship. A nineteenth program (Electro-Mechanical Technology) was authorized by the board in 1965 and was offered for the first time during the spring term 1966. This too is a three-year program. The programs offered in 1965-66 are shown in Table 31, p. 118. In those instances in which the program has received special accreditation, that fact is noted.

It will be observed in Table 31 that the nine programs initiated at OTI since August 1948 have, with only two exceptions (secretarial technology and electro-mechanical technology), been appropriately accredited by an accrediting agency. There is no official accrediting agency for the secretarial technology program. Electro-mechanical technology has just been added to OTI's program and therefore is not yet eligible for accreditation by the Engineering Council for Professional Development. Within a matter of two to three years, application will be made for accreditation of this program, and given the resources being put into it, it will likely receive accreditation as have six other engineering technology programs at OTI up to the present (1966).

TABLE 31

CURRICULA OFFERED AT OTI - 1965-66

Curriculum Title 1	Date First Offered 2	Accredited By 3
Automotive Mechanics Technology	7-47	
Diesel Technology	8-47	
Electronics Technology	8-47	Engineering Council for Prof. Develop.
Accounting Technology	9-47	
Machining Processes Technology	9-47	
Small Arms Processes Technology	10-47	
Welding Processes Technology	10-47	
Office Machines Technology	11-47	
Medical Laboratory Technology	1-48	
Automotive Tune-up & Instrumentation Technology	2-48	
Dental Assistant Technology	8-48	Council on Dental Educ., Am. Dent. Assoc.
Structural Design Technology	9-48	Engineering Council for Prof. Develop.
Surveying Technology	8-50	" " " " "
Medical X-Ray Technology	9-52	Committee on Technician Training of American College of Radiology and the Council on Medical Education, AMA.
Secretarial Technology	9-56	
Highway Technology	9-56	Engineering Council for Prof. Develop.
Drafting Technology	9-58	" " " " "
Mechanical Technology	9-59	" " " " "
Electro-Mechanical Technology	3-66	

OTI Authorized to Plan for Offering Programs Leading to Bachelor of Technology Degree

The limitation of Oregon Technical Institute to subbaccalaureate technical programs was operative from 1960 when OTI became, by legislative direction, a unit of the State System of Higher Education, until action by the State Board of Higher Education January 24-25, 1966, which extended OTI's curricular allocation to include programs leading to the bachelor of technology degree, effective 1966-67 in the case of the medical laboratory technology program.

At the foregoing meeting the state board affirmed its intention "that OTI, as the 'coeducational polytechnic college in the Oregon State System of Higher Education,' shall develop a limited number of high-quality, four-year baccalaureate degree programs, leading to the Bachelor of Technology degree for technically oriented youth in selected technical areas."

In taking this important action the board stated that it "acknowledged the need to offer to technically oriented students access to baccalaureate programs suited to their interests and needs just as the academically oriented students have access to baccalaureate programs geared to their interests and needs." By way of elaboration of this view, the board said:

> To the technically oriented youth, completion of a baccalaureate program in technology is becoming increasingly essential to his gaining ready access to supervisory and managerial opportunities in his field of interest. Denied this opportunity in public institutions, he must search, through other sources, for access to training leading to these higher paying positions of greater responsibility. Such training opportunities, if not available in the public institutions, are not, in any meaningful sense, available at all to many of these young people.

The board then authorized OTI to offer a bachelor of technology degree in medical laboratory technology effective with the 1966-67 school year. It deferred approval of OTI's request for authorization to offer baccalaureate degree programs in the engineering technologies (civil, electrical, and mechanical) "until such time as there can be an appropriate strengthening of the staff essential to the needs of a baccalaureate program." It was assumed that the 18.3 FTE staff additions authorized OTI in 1966-67 because of overrealized enrollment in 1965-66, would permit OTI to take important steps toward strengthening the faculty in these engineering technologies preparatory to asking for authorization to offer the programs leading to the bachelor of technology degree in one or more of these fields.

In taking this momentous action to expand OTI's curricular allocations, the State Board of Higher Education expressed its expectation that:

> . . . OTI would continue to offer two- and three-year programs for the preparation of technicians. These programs would be expected to continue to serve the interests of, among others, that large group of youngsters who are largely forgotten in American post-high school education, namely those who, though they lack high verbal skill, yet are possessed of other abilities which permit them to excel in technical education and as technicians in industry.

The board further stated that as the four-year baccalaureate degree programs are added in tandem with the two- and three-year subbaccalaureate programs, the board would anticipate that OTI would be more careful in screening of the students admitted into the two-year associate degree programs to insure that only those are admitted who have the background and capacity for completing the program. Thus, it is anticipated that fewer will be admitted to the two-year programs at the lower end of the aptitude scale, making additional room for those with the background for success in a program for technicians. Those students who are not admitted for lack of background or ability would have access to remedial and vocational programs at community colleges.

Enrollments at OTI. Enrollments by curricular division are given for OTI for the years 1960 to 1965 in Table 32. It will be observed that enrollments have climbed from 759 in 1960 to 1,168 in 1965; that from 1960 to 1965 there has been a slight increase in the proportion of the total enrollment accounted for by the enrollments in the business and medical technologies, and a slight, though not significant, decrease in the proportion of the total enrollment accounted for by the enrollments in engineering, auto-diesel, and metals technologies.

TABLE 32

OTI TOTAL FALL TERM ENROLLMENTS, BY DIVISION
1960-1965

Division	Fall Term Enrollment											
	1960		1961		1962		1963		1964		1965	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	2	3	4	5	6	7	8	9	10	11	12	13
Business	87	11.5	89	9.9	111	12.2	120	13.2	140	13.4	162	13.9
Engineering	324	42.6	374	41.5	411	45.3	409	45.1	474	45.6	483	41.3
Medical	85	11.2	119	13.2	105	11.6	109	12.0	130	12.5	189	16.2
Auto-Diesel	205	27.1	262	29.0	226	24.9	210	23.1	237	22.8	265	22.7
Metals	55	7.2	58	6.4	55	6.0	60	6.6	59	5.7	69	5.9
Construction & Service	2	.3	-	-	-	-	-	-	-	-	-	-
Agriculture	1	.1	-	-	-	-	-	-	-	-	-	-
Total	759		902		908		908		1,040		1,168	

Selected Characteristics of the OTI Student Population. We present here a summary of some of the OTI student characteristics, data for which are contained in the document earlier referred to, *An Analysis and Discussion of the Oregon Technical Institute Program*.

- OTI's students are largely residents of Oregon. In 1965, 89.4 percent were classified as resident, 10.6 percent as nonresident. The proportion of nonresident students has declined from 14.6 percent in 1963 to 10.6 percent in 1965. Of the 1962 entering freshman class, 18.3 percent came from within a 25-mile radius of Klamath Falls. Of that entering freshman class, 86.3 percent gave their residence as Oregon at the time of matriculation.

- *The "typical" OTI student appears to belong to that large group of youngsters largely forgotten in American post-high school education. He is the able, low-verbal student.* He has demonstrated that he is able by maintaining a C-B average (2.00-2.99 GPA) in a high school situation which requires for graduation a substantial number of units of academic work - English, social studies, biology, mathematics - courses he probably does not particularly "like." He has demonstrated a lack of the verbal skills, which make learning from books and lectures easy, by his score on the College Entrance Examination Board (CEEB) Scholastic Aptitude Test - Verbal (mean scores, 1964 freshman class range from (by divisions) 367 to 418). The foregoing observations are derived from an examination of the high school grade point averages of OTI's 1962 freshman class, and the the CEEB scores of OTI's 1962 and 1964 freshmen classes.

- Mortality among OTI's students, high by some standards, is not unusual for specialized institutions like OTI. The 1962 OTI freshman class numbered 481. Of this number, more than one-half (276, 57.4 percent) withdrew before completing their programs (and had not re-entered OTI by fall term 1964). Slightly more than one-fourth (28.1 percent) graduated spring term 1964. An additional 70 of the 481 enrolled for classes fall term 1964. Of these, 18 were enrolled in the three-year medical technology and medical X-ray programs. The 18 enrolled in the foregoing three-year curricula plus the 135 who graduated in the spring of 1964 accounted for 31.8 percent of the entering number in 1962.

- OTI's graduates appear to be well received both in Oregon and elsewhere. OTI-trained technicians find ready employment in such space-age industries as the Lawrence Radiation Laboratories in Livermore, California, and in Las Vegas and Mercury, Nevada; Sandia Corporation in Livermore, and in Albuquerque, New Mexico; Los Alamos Scientific Laboratory, Los Alamos, New Mexico; and IBM in San Jose, California.

  Graduates of the civil engineering technologies are employed in such agencies as the Oregon State Highway Department, the U. S. Bureau of Public Roads, Pacific Gas and Electric (San Francisco) and city engineering offices in Oregon and California.

  Medical Technology and Medical X-ray Technology graduates find employment both in Oregon and in surrounding states, notably California.

Oregon State University

In 1965-66, Oregon State University listed in its catalog one curricular option (agricultural technology), an area of specialization within agriculture (mechanical technology in agriculture), and two baccalaureate degree programs (food technology, and production technology) which bore the title "technology." Of these programs, however, only two were truly technical programs in the sense in which we use that term in this report (mechanical technology in agriculture and production technology). The general character of the technical programs may be seen in the requirements for a baccalaureate degree in production technology. Of the total of 205 credit hours required for the degree, more than one-half (110 credit hours) are required in the major technical specialty and related technical courses.

In January 1966, the State Board of Higher Education authorized OSU to add to its technical programs, effective 1966-67, three additional four-year baccalaureate degree, terminal programs, namely civil engineering technology, mechanical engineering technology, and electric power technology. These programs are, as indicated, terminal in character, in that they are not intended to provide a base upon which graduate work may be built. They have a dual purpose: (1) to open to OSU students of a specific interest and capacity a new educational opportunity leading to productive employment, and (2) to assist in meeting what is currently (1966) a manpower shortage in these areas of technology.

As Dean Gleeson of Oregon State University indicated in his discussion of these programs, the direction in which engineering education has moved in recent years has resulted in a "higher than normal student mortality" and has produced graduates "overtrained" for many of the positions which demand engineering talent. Moreover, industry and government have increasingly found that they are unable to secure a sufficient number of employees having the requisite engineering technology background.

In authorizing the three new technology programs at OSU, the State Board of Higher Education expressed its conviction that Oregon State University has an important role to play in the field of technical education, and implied that as the need can be demonstrated and the resources made available, the board will authorize additional technology programs at Oregon State University.

University of Oregon Medical School

The Medical School offers two programs bearing the title of technology - radiologic technology and medical technology.

Radiologic technology is a two-year program. Minimum admission requirement is graduation from an accredited high school with high scholastic rating. Preference is given to applicants who have college training with credits in mathematics and physics.

The program in medical technology is classified in this report as a professional program rather than one in technical education because of the fact that it consists of 12 months in medical technology built on three years of college work in one of the state system's four-year institutions. The student, in his first three years, takes a rather heavy program in biology, chemistry, and mathematics, as well as meeting other general institutional requirements for a baccalaureate degree. The year of work at the Medical School is counted by the baccalaureate institution as the fourth year in meeting the institution's baccalaureate degree requirements.

University of Oregon Dental School

The University of Oregon Dental School offers one program which might be classified as technical in character - a two-year program in dental hygiene.

Independent Colleges and Universities

Vocational-technical offerings in the independent colleges are, with the single exception of Multnomah College, limited to programs in medical technology, offered jointly with hospital or laboratory schools.

Multnomah College has a variety of trade and technical programs, the following being those listed with the State Department of Education: electronics engineering (24 months program), electronics technology (terminal program - 24 months in duration), automotive mechanics (18 months), machine shop (24 months), welding and forging (6 months). Auto mechanics, machine shop, and welding and forging are offered in evening school in 12 weeks programs.

Interrelated Roles of Post-High School Institutions in the Fields of Vocational-Technical Education in Oregon

We have earlier indicated the great importance we attach to vocational-technical education as a necessary part of the total spectrum of post-high school education in Oregon. In our earlier discussion in this present chapter, we noted the wide range of vocational-technical programs available in Oregon (Figure VIII, p. 97; Table 24, p. 98; Table 26, p. 100). They range, on the one hand, from the short term (several weeks) program, designed to prepare semi-skilled workers for specific jobs, to highly technical four-year programs, accredited by the Engineering Council for Professional Development (ECPD), leading to a bachelor of science degree and to employment in a semi-professional capacity.

We should like, at this juncture, to comment briefly on the relationship of the roles of the several institutions and agencies providing vocational-technical education in Oregon and the nature of the role we anticipate that the various types of post-high school educational institutions will play in the future development of this important aspect of education.

The Community Colleges and the Future Development of Vocational-Technical Education in Oregon

1. The community colleges should be expected to play an increasingly important role in providing vocational-technical education in Oregon. This seems a reasonable surmise because:

   a. The community colleges in Oregon, as with community colleges in almost all other states having such institutions, have been given a special charge to provide vocational-technical education. Occupational education is one of the most distinctive characteristics of their assigned role.

   b. The community colleges, because they do not offer baccalaureate degrees, have less difficulty, we believe, in attracting and holding students in vocational-technical programs at the subbaccalaureate level than were the community colleges offering baccalaureate degrees in the liberal arts areas.

   c. The community colleges are increasing in number in Oregon, bringing more and more of the state's population within easy commuting distance of one or more of these institutions. It is estimated that with the development of community colleges in the areas meeting statutory criteria for formation of an area education district, 85 percent of Oregon's population would be within reasonable commuting distance of a community college. The committee has recommended the formation of area education districts by all eligible areas not now offering community college services with the exception of the Union-Baker-Wallowa area in which case it is suggested that study be given to combining with existing neighboring district, as discussed in Chapter VIII.

2. The community colleges in Oregon, particularly those in the larger population centers, may be expected to offer occupational training of a wide variety, including: (1) short-term vocational preparation leading to semi-skilled employment, (2) longer-term vocational programs for the preparation of skilled workers, and (3) two- or three-year technical programs leading to an associate degree, and to employment in a semi-professional capacity. This range in occupational education already exists in some community colleges in Oregon.

3. Some overlap of occupational training offered at the vocational education level by the proprietary schools and by the community colleges will continue. This is probably inevitable. However, if the recommendations of the committee on post-high school education are implemented, we would expect that there would be more consultation between and among the community colleges and the proprietary schools in the future. Such consultation would have for its purpose the determination of the extent to which programs offered by the proprietary schools can be effectively used to meet occupational training needs which the area education district feels some obligation to offer under community college aegis. Legislative authorization, granted area education districts in 1965, to contract with the proprietary schools for services gives point to such consultations now.

4. It is to be expected in Oregon that in the subbaccalaureate technical programs of two- and three-years' duration the community colleges will increasingly move into areas of training with programs not dissimilar from subbaccalaureate programs in technology offered at Oregon Technical Institute. While none of Oregon's community colleges yet has engineering technology programs which are accredited by the Engineering Council for Professional Development (ECPD), as does Oregon

Technical Institute, it would be underestimating the vitality and the energy of the community colleges to assume that none of them will have ECPD-accredited programs in the future. Indeed, Portland Community College has already signified its intention of developing some engineering technology programs which it will hope to get accredited by ECPD. Since, however, such technology programs are high-cost programs, it is likely that they can be supported only in those community colleges where the student demand is sufficiently great to warrant the relatively heavy investment involved.

This likely duplication of subbaccalaureate technology programs in certain fields at Oregon Technical Institute and selected community colleges in the major population centers of Oregon ought not to be a source of concern, provided the enrollments in the community college programs justify the investment involved in establishing an ECPD-accredited program in the engineering technologies.

But this development does have implications for the future role of Oregon Technical Institute, as we shall observe shortly.

Oregon Technical Institute and Vocational-Technical Education

Oregon Technical Institute is an institution in transition. It has for a number of years - almost since its inception - been in process of shucking educational programs at the vocational end of the vocational-technical education spectrum and replacing them wich technical programs which lead to semi-professional occupations rather than the skilled or semi-skilled occupations. A glance at Table 31, p. 118, suggests this changing character of occupational programs at OTI.

With the emergence of the community colleges in Oregon, and with the expectation of their development of increasingly significant two- and three-year programs in technology, Oregon Technical Institute is looking toward the extension upward of its curricular offerings to the baccalaureate level. But the four-year baccalaureate programs to which OTI aspires are not the traditional liberal arts bachelor of science or bachelor of arts degrees. They are programs so different that only a new degree - bachelor of technology - will suffice. The Board of Higher Education has authorized OTI, effective 1966-67, to offer a bachelor of technology degree in Medical Laboratory Technology. The board has further authorized OTI to work toward the development of the resources justifying its authorization to offer bachelor of technology degrees in the engineering technologies as well. As we see Oregon Technical Institute in this state of transition, it is our view that Oregon Technical Institute can best fit into the total post-high school educational structure of Oregon in terms of the pattern of technical education offerings described in some considerable detail below.

5. Oregon Technical Institute should be expected to offer a range of technical programs including two- and three-year associate degree programs in technology and four-year programs in engineering and medical technologies. In offering subbaccalaureate and baccalaureate degree programs in technology, OTI appears, in some measure, to find itself in the company of the community colleges, in the case of the subbaccalaureate degree programs, and of OSU, in the case of the baccalaureate degree programs.

However, the similarity in four-year programs in the engineering technologies at OSU and OTI are more apparent than real. For the baccalaureate programs at those two institutions are intended to serve the needs of different kinds of students and to lead to employment in different kinds of jobs. This is not to say that one is superior and the other inferior. It is, rather, to say that the programs are different, and being different, they permit Oregon to meet the post-high school educational objectives of a wider range of its citizens who have an orientation toward technical education.

6. The transfer capabilities in the field of technical education should be clearly delineated, revealing the nature of the transfer possibilities from the community colleges to the OTI programs, particularly the baccalaureate programs. The Department of Education and the Department of Higher Education should assume joint responsibility for developing the statement relating to transfer programs in technical education.

Oregon State University and Technical Education

7. Oregon State University has a legitimate interest in technical education at the baccalaureate level. It should be encouraged to expand its technical education offerings as the employment needs warrant and the resources of OSU permit. The addition of three (mechanical engineering technology, civil engineering technology, and electric power technology) new baccalaureate terminal programs for the 1966-67 school year is a good beginning. Added to the two four-year baccalaureate programs OSU has been offering for a number of years (production technology, mechanical technology in agriculture), they provide OSU with a sufficiently large number of programs to provide useful experience in the determination of the need for future expansion in the technology field. At the present (1966), the transfer capabilities from the technical programs in the community colleges and at OTI to the OSU programs are slight, because of the different character of the programs in these institutions. This may well be a continuing phenomenon. For it is this very diversity in the character of programs at OSU and OTI and at the community colleges that provides our citizens the range of opportunities in technical education that is presently theirs. To the extent and the degree that these programs become alike, to that extent is the diversity of offerings lost.

The Medical and Dental Schools

8. It is not anticipated that there will be substantial change in the extent or the character of the offerings at the Medical and Dental schools as these were described on p. 96 of this report. In the field of medical technology, the state system is offering the citizens of Oregon two types of programs, both four-year, and both leading to a bachelor's degree, though a different degree, to be sure. The student completing the four-year program for medical technologists outlined by OTI will earn the bachelor of technology degree. The Medical School medical technology program is affiliated with the six four-year institutions of the state system and the work taken at the Medical School in the fourth year is counted by the state system institutions toward bachelor of science degree requirements.

   In this instance, as in the case of the four-year engineering technologies programs at OSU and OTI, the medical technology programs provide different opportunities to meet the different interests and needs of Oregon's students.

Academic Programs at the Two- and Four-Year Levels

It has long been known that the proportion of young people attending college is related to the proximity of these facilities to the homes of the students. The proportion of students attending college varies area by area within states, the highest proportion being found in those areas in closest proximity to colleges.

We have taken the position that insofar as the two-year post-high school educational opportunities are concerned, these should be available within one hour's commuting distance of high school graduates in Oregon, except where distance and sparsity of population make it wholly impracticable.

How nearly we have attained this goal in Oregon may be seen from a series of figures which follow.

In figure XII, p. 127, we present a map on which is indicated the location of the independent and public post-high school institutions of Oregon. Figure XIII, p. 128, indicates the location of the sixteen publicly supported institutions of Oregon (state system institutions and community colleges). We have drawn about each institution a circle representative of a 40-mile radius, suggesting a reasonable commuting distance. It will be observed that the public institutions are principally in the Willamette Valley. It is interesting to observe that of the 1965 high school graduating class in the public and private high schools of Oregon, 90.7 percent graduated from schools located within the circles circumscribed on Figure XIII.

Had community college opportunities been available in the Klamath Falls and The Dalles areas, 95 percent of the 1965 high school graduating classes of Oregon would have been included within a 40-mile radius of a publicly supported institution.

Figure XIV, p. 129, shows the location of the community colleges. Figure XV, p. 130, shows the area education districts with the commuting radius superimposed. Figure XVI, p. 131, shows the commuting range for the state system institutions.

The range of undergraduate academic and professional offerings for the community colleges is shown in Table 25, p. 99; for the state system institutions, Tables 27, 28, and 29, pp. 101, 102, and 103; for the independent colleges and universities, Table 30, p. 106.

Extent to Which Oregon's Graduating High School Seniors Avail Themselves of Post-High School Educational Opportunities

The State System Office of High School Relations has, for a number of years past, annually made several studies of Oregon's high school seniors, which studies are useful in gaining insight into the extent to which Oregon's graduating high school seniors avail themselves of post-high school educational and training opportunities: (1) The first of these studies is designed to get at what the graduating seniors anticipate they will be doing the September following graduation from high school. (2) The second is a follow-up study in the fall of each year to learn what a random sample of 10 percent of each of Oregon's high school graduating classes is actually doing the fall following graduation from high school. (3) The third study is of the upper 10 percent of each high school graduating class to determine what they are doing the fall following graduation from high school. We present here the results of these studies.

What Oregon's Graduating High School Seniors Anticipate Doing the Fall Following Graduation

The study of what Oregon's graduating high school seniors in the 1961-62 to 1965-66 high school classes anticipate doing the fall following graduation is based upon the returns received from the graduating seniors themselves. A very high proportion of all graduating seniors respond each year. For example, in 1966, 28,829 high school seniors in 241 of the 245 high schools in Oregon responded, out of an estimated total of 33,213 seniors in the state in 1966 (87.0 percent). We present in Table 33, p. 132 , the data derived from this study for the years 1962 to 1966.

Table 33 reveals that more than half of the graduating seniors anticipated going on to college the year following high school graduation. But the percentage anticipating college has declined from 1962 (58.5 percent) to 1966 (54.3 percent). If one adds to those anticipating going on to college the seniors who plan on going to vocational school (9.1 percent in 1962, 8.0 percent in 1966), it is apparent that 67.6 percent of the graduating high school seniors in 1962 anticipated entering a post-high school educational program in a college or vocational school in the fall following graduation, compared with 62.3 percent in 1966.

FIGURE XII

MAP SHOWING LOCATION OF INDEPENDENT AND PUBLIC COLLEGES AND UNIVERSITIES IN OREGON

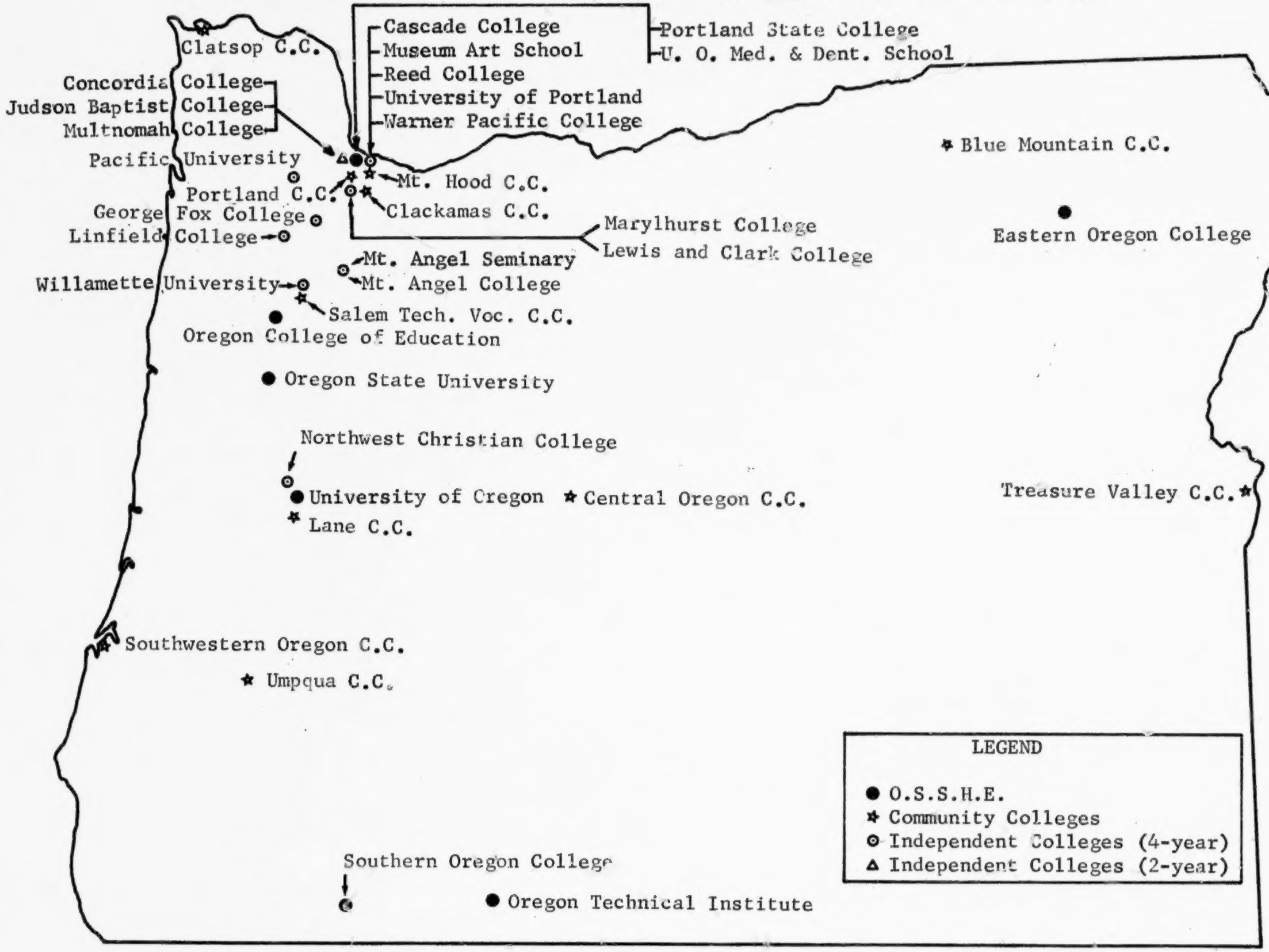
Cascade College
Museum Art School
Reed College
University of Portland
Warner Pacific College
Portland State College
U. O. Med. & Dent. School
Clatsop C.C.
Concordia College
Judson Baptist College
Multnomah College
Pacific University
Portland C.C.
Mt. Hood C.C.
George Fox College
Clackamas C.C.
Linfield College
Marylhurst College
Lewis and Clark College
Mt. Angel Seminary
Mt. Angel College
Willamette University
Salem Tech. Voc. C.C.
Oregon College of Education
Oregon State University
Northwest Christian College
University of Oregon
Central Oregon C.C.
Lane C.C.
Blue Mountain C.C.
Eastern Oregon College
Treasure Valley C.C.
Southwestern Oregon C.C.
Umpqua C.C.
Southern Oregon College
Oregon Technical Institute
LEGEND
● O.S.S.H.E.
★ Community Colleges
⊙ Independent Colleges (4-year)
△ Independent Colleges (2-year)

FIGURE XIII

LOCATIONS AND COMMUTING AREAS OF OREGON'S SIXTEEN PUBLICLY SUPPORTED INSTITUTIONS OFFERING LIBERAL ARTS PROGRAMS

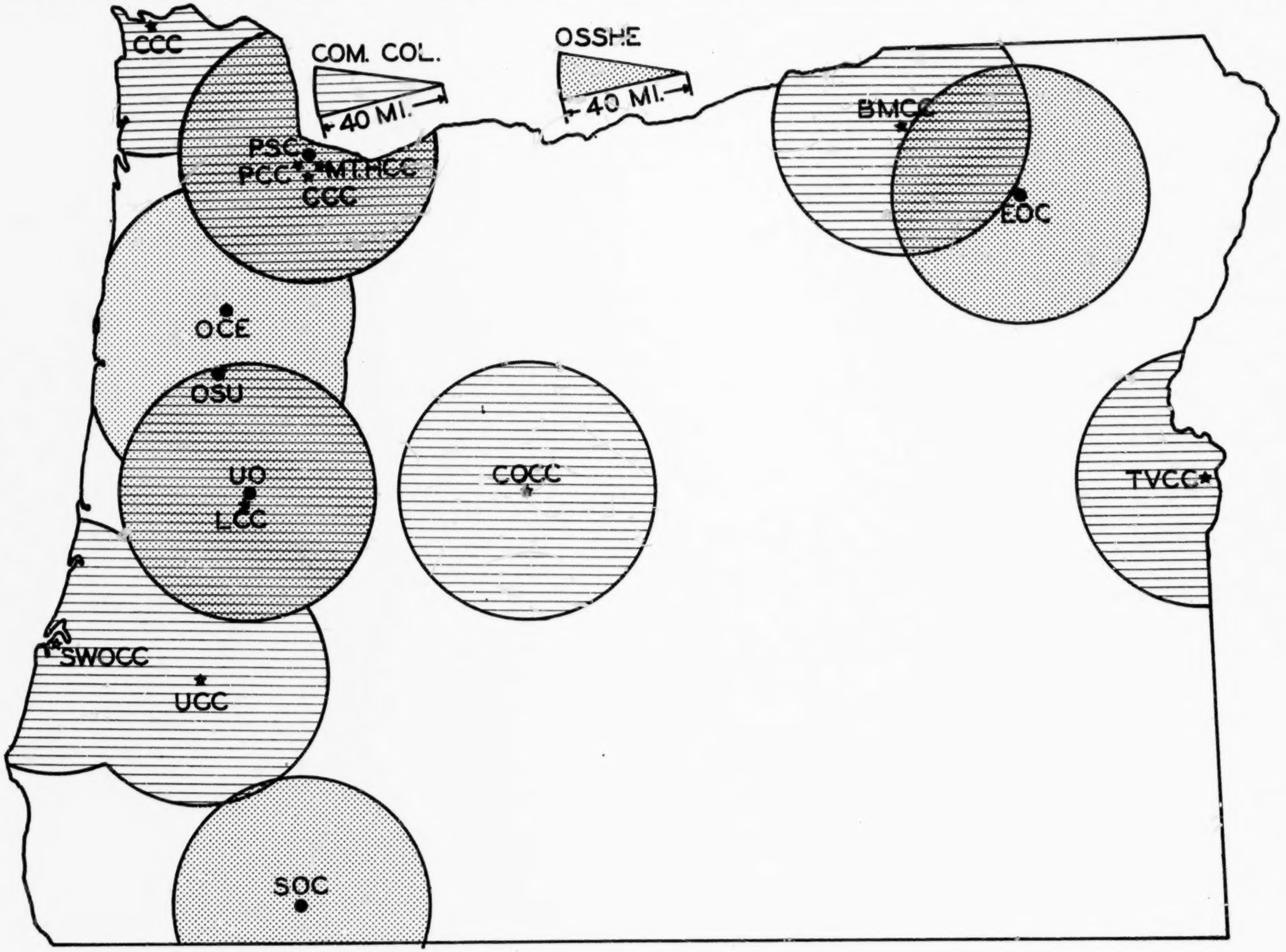
CCC
COM. COL.
40 MI.
OSSHE
40 MI.
BMCC
EOC
PSC
PCC
MTHCC
CCC
OCE
OSU
UO
LCC
COCC
TVCC
SWOCC
UCC
SOC

FIGURE XIV

MAP SHOWING LOCATIONS OF OREGON'S ELEVEN COMMUNITY COLLEGES

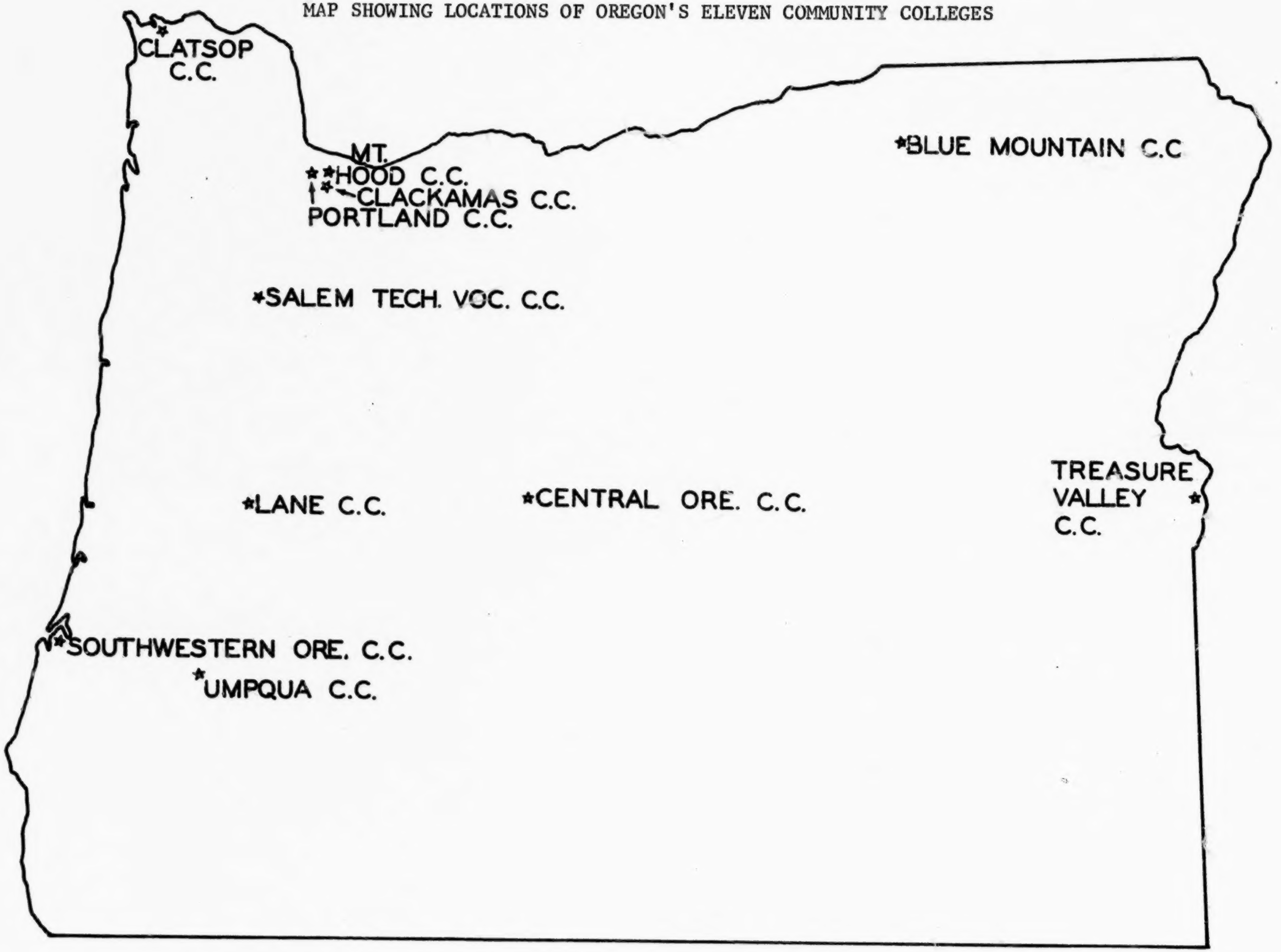
CLATSOP C.C.
MT. HOOD C.C.
CLACKAMAS C.C.
PORTLAND C.C.
BLUE MOUNTAIN C.C
SALEM TECH. VOC. C.C.
LANE C.C.
CENTRAL ORE. C.C.
TREASURE VALLEY C.C.
SOUTHWESTERN ORE. C.C.
UMPQUA C.C.

FIGURE XV

COMMUNITY COLLEGE DISTRICTS, LOCATIONS OF COLLEGES, AND AREA WITHIN 40-MILE RADIUS OF EACH COLLEGE

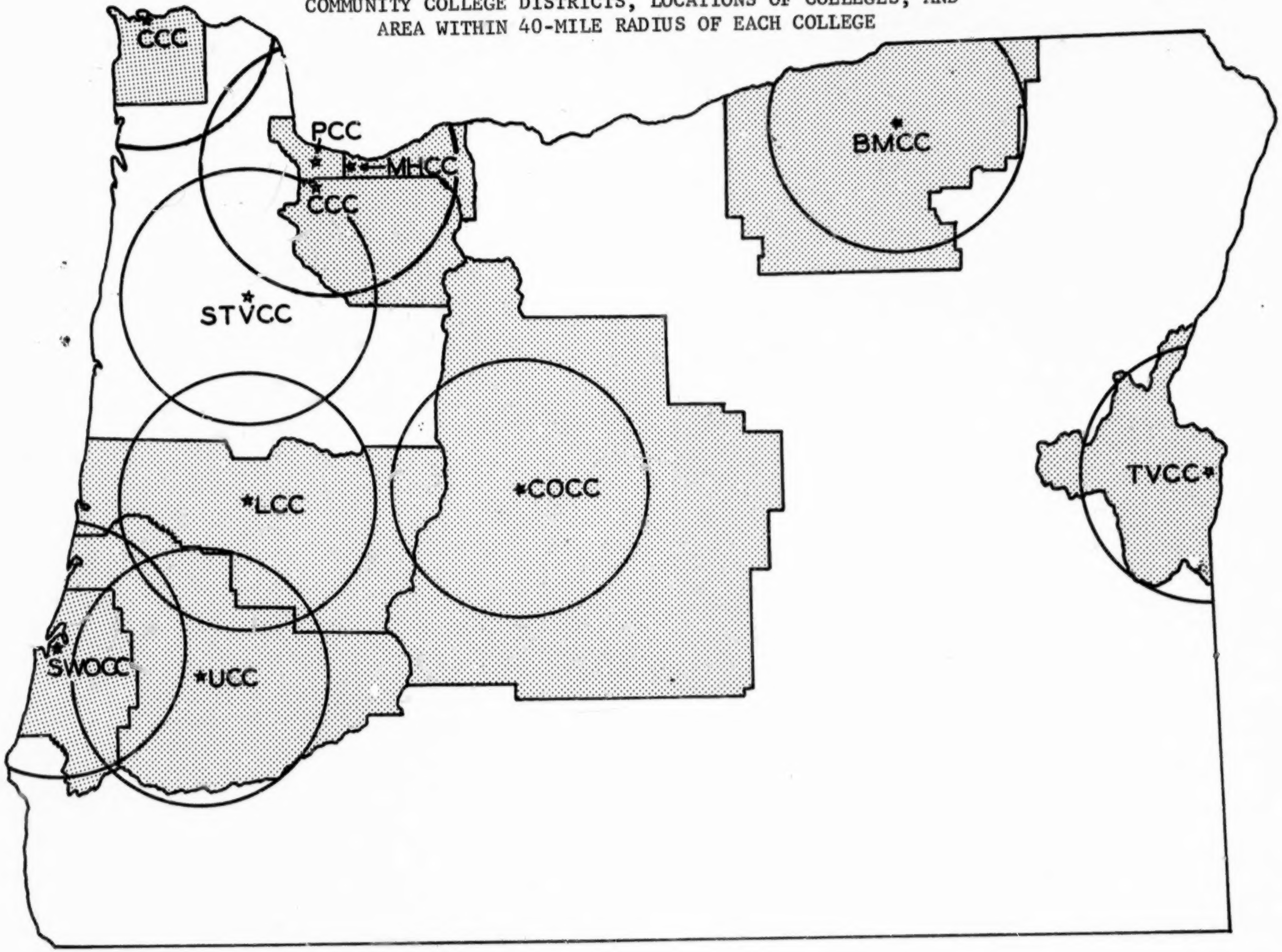
CCC
PCC
MHCC
CCC
BMCC
STVCC
LCC
COCC
TVCC
SWOCC
UCC

FIGURE XVI

NUMBERS OF 1966 GRADUATES (IN HUNDREDS) FROM HIGH SCHOOLS
LOCATED WITHIN 25 AND 40 MILES OF STATE SYSTEM MULTI-PURPOSE INSTITUTIONS

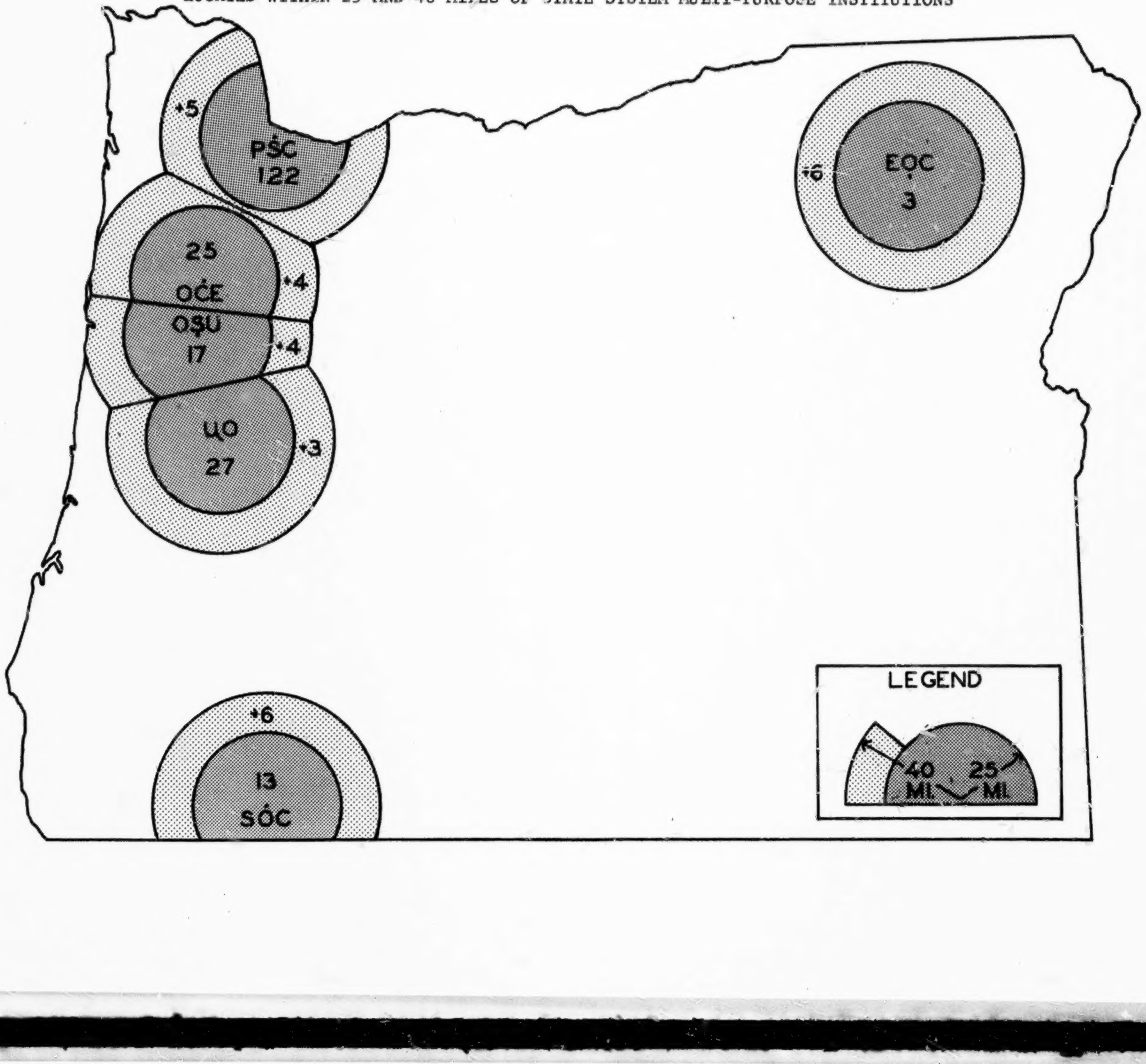
+5
PSC
122
EOC
3
+6
25
OCE
+4
OSU
17
+4
UO
27
+3
+6
13
SOC
LEGEND
40
MI
25
MI

TABLE 33

ANTICIPATED POST-HIGH SCHOOL ACTIVITIES
GRADUATING SENIORS OREGON HIGH SCHOOLS
1962 to 1966

Indicated Preference 1	1962 2	1963 3	1964 4	1965 5	1966 6
Further Schooling					
Oregon State System Institutions	42.2	35.7	37.2	37.0	34.0
Oregon Independent Colleges and Universities	8.9	5.8	5.7	6.1	5.6
Oregon Community Colleges	1.0	3.1	2.7	5.3	6.4
Total Oregon Colleges	52.1	44.6	45.6	48.4	46.0
Out-of-State Public Institutions	6.4	2.7	2.2	2.3	2.2
Out-of-State Independent Institutions		4.6	3.9	4.7	5.1
Out-of-State Junior Colleges		2.0	1.5	1.3	1.0
Total Colleges	58.5	53.9	53.2	56.7	54.3
Vocational School Attendance[1]	9.1	11.3	8.1	7.3	8.0
Non-School Activities					
Work	23.6	21.0	26.2	25.9	26.6
Military Service	7.4	7.4	7.5	5.3	5.8
Marriage	.3	4.7	3.5	3.7	3.3
Miscellaneous	1.1	1.7	1.5	1.1	2.0
Total Non-School	32.4	34.8	38.7	36.0	37.7
Total Respondents	18,238	19,416	22,738	27,911	28,829
No. of Schools	204[a]	218[a]	209[a]	228[b]	241[b]

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[1] Diploma nursing schools, proprietary schools, Bible colleges not granting degrees.

[a] Includes Oregon public high schools only.

[b] Includes Oregon public and private high schools.

Table 33 also reveals that the percentage of the high school seniors anticipating entering state system institutions or Oregon independent colleges and universities has declined from 1962 to 1966 (state system institutions, from 42.2 percent in 1962 to 34.0 percent in 1966, and from 8.9 percent in 1962 to 5.6 percent in 1966 in the independent colleges and universities), while the percentage anticipating attendance at Oregon community colleges has increased over the same period (from 1.0 percent in 1962 to 6.4 percent in 1966). The percentage of graduating high school seniors anticipating working has increased slightly from 1962 to 1966 (23.6 percent to 26.6 percent) as has the percentage of those anticipating marriage following high school graduation (.3 percent in 1962; 3.3 percent in 1966). Interestingly, the percentage anticipating military service following graduation has declined (7.4 percent in 1962; 5.8 percent in 1966).

What the Graduating High School Seniors Were Doing the Fall Following Graduation

To learn what Oregon's graduating high school seniors actually do the fall following graduation as contrasted with what they anticipated doing when they responded during their senior year, the State System Office of High School Relations, with the effective cooperation of the high schools, carries on each year a study of what a randomly selected 10 percent sample of each high school graduating class is doing the fall following graduation from high school. The data from these studies for the years 1961 to 1965 are presented in Table 34, p. 134. The same data are presented graphically in Figures XVII, XVIII, and XIX, pp. 135, 136, and 137.

Perhaps the most interesting statistics in Table 34 are those which reveal that the percentage of those going on to college has increased rather markedly from 1961 to 1965 (from 45.7 percent in 1961 to 55.1 percent in 1965).

The percentage of those going on to Oregon colleges and universities, both public and independent, has increased from 39.8 percent to 47.8 percent.

The percentage enrolling in Oregon independent colleges and universities has declined slightly, from 6.3 percent in 1961 to 5.1 percent in 1965, while the percentage attending state system institutions has increased slightly, from 30.9 percent in 1961 to 32.5 percent in 1965. But the percentage enrolling in the community colleges has increased from 2.6 percent in 1961 to 10.2 percent in 1965, reflecting the increasing number of community colleges in Oregon.

If one adds to those who went on to college the number who went to vocational school, deriving thus the percentage of the 10 percent sample who went on to post-high school education and training activities in a college or vocational school, one discovers that the percentage has increased from 51.2 percent in 1961 to 62.0 percent in 1965.

What Oregon's Academically Talented High School Students Do following Graduation

Table 35, p. 138, presents the data derived from the annual studies by the State System Office of High School Relations concerning the activities of those students in each high school graduating class who ranked academically among the top 10 percent of their class.

The data reveal that the great preponderance of these academically talented students go on to college and that the percentage of these students going on to college has increased from 82.3 percent in 1961 to 90.4 percent in 1965.

Oregon institutions, public and independent, enrolled 64.0 percent of the top 10 percent group in 1961 compared with 68.7 percent in 1965, while 18.3 percent enrolled in out-of-state institutions in 1961 compared with 21.7 percent in 1965.

TABLE 34

POST-HIGH SCHOOL ACTIVITIES (AS OF SEPTEMBER FOLLOWING GRADUATION) OF RANDOMLY SELECTED 10 PERCENT SAMPLE OF HIGH SCHOOL GRADUATING CLASSES IN OREGON, 1961 to 1965

Activity in September Following Graduation	1961	1962	1963	1964	1965
1	2	3	4	5	6
Further Schooling					
Oregon State System Institutions	30.9	30.4	30.7	29.9	32.5
Oregon Independent Colleges and Universities	6.3	5.1	6.0	7.4	5.1
Oregon Community Colleges	2.6	5.2	3.8	5.0	10.2
Total Oregon Colleges	39.8	40.7	40.5	42.3	47.8
Out-of-State Public Institutions	5.9	5.1	1.7	1.7	1.8
Out-of-State Independent Institutions			3.3	4.2	4.5
Out-of-State Junior Colleges			1.6	2.0	1.0
Total Colleges	45.7	45.8	47.1	50.2	55.1
Vocational School Attendance	5.5	6.1	7.1	7.2	6.9
Non-School Activities					
Work	21.7	21.7	23.7	22.7	21.5
Military Service	8.8	7.0	7.4	5.9	5.9
Marriage	6.9	6.9	7.5	6.3	5.9
Unemployed					2.7
Miscellaneous	11.4	12.5	7.2	7.7	2.0
Total Non-School	48.8	48.1	45.8	42.6	38.0
Total Respondents			2140	2351	3031
Total Sample	1964	2046	2269	2513	3228
Percentage of Sample Responding			94.3%	93.6%	93.9%
Total Oregon High School Graduates	22,752	22,315	22,362	26,041	31,732
Percentage Respondents Were of Total High School Graduates	9.3%	9.2%	9.6%	9.0%	9.1%

FIGURE XVII

FIVE-YEAR COMPARATIVE DISTRIBUTION OF POST-HIGH SCHOOL ACTIVITIES OF OREGON HIGH SCHOOL GRADUATES AS DETERMINED BY A RANDOM 10 PERCENT SAMPLE OF EACH CLASS, 1961 THROUGH 1965

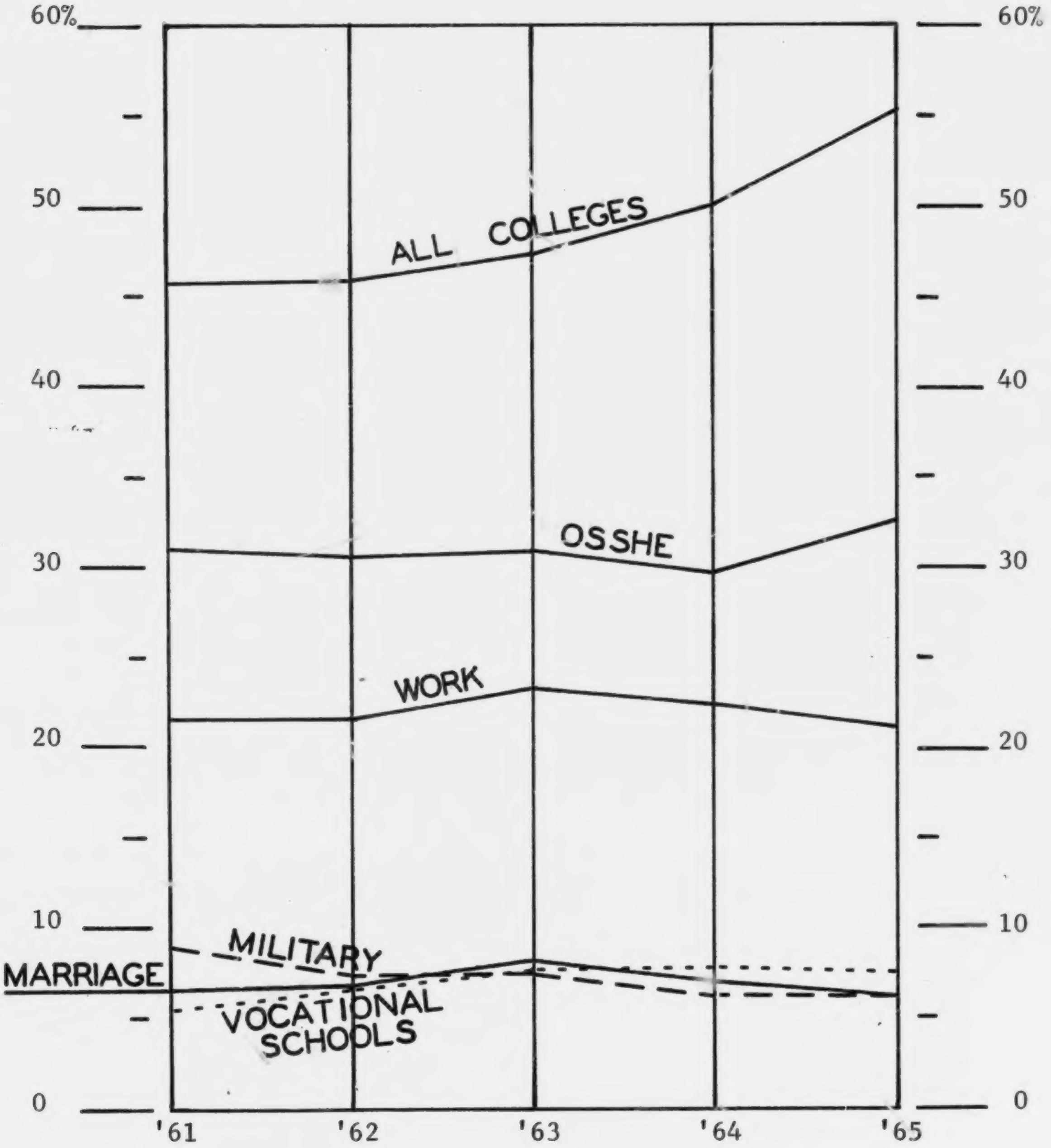
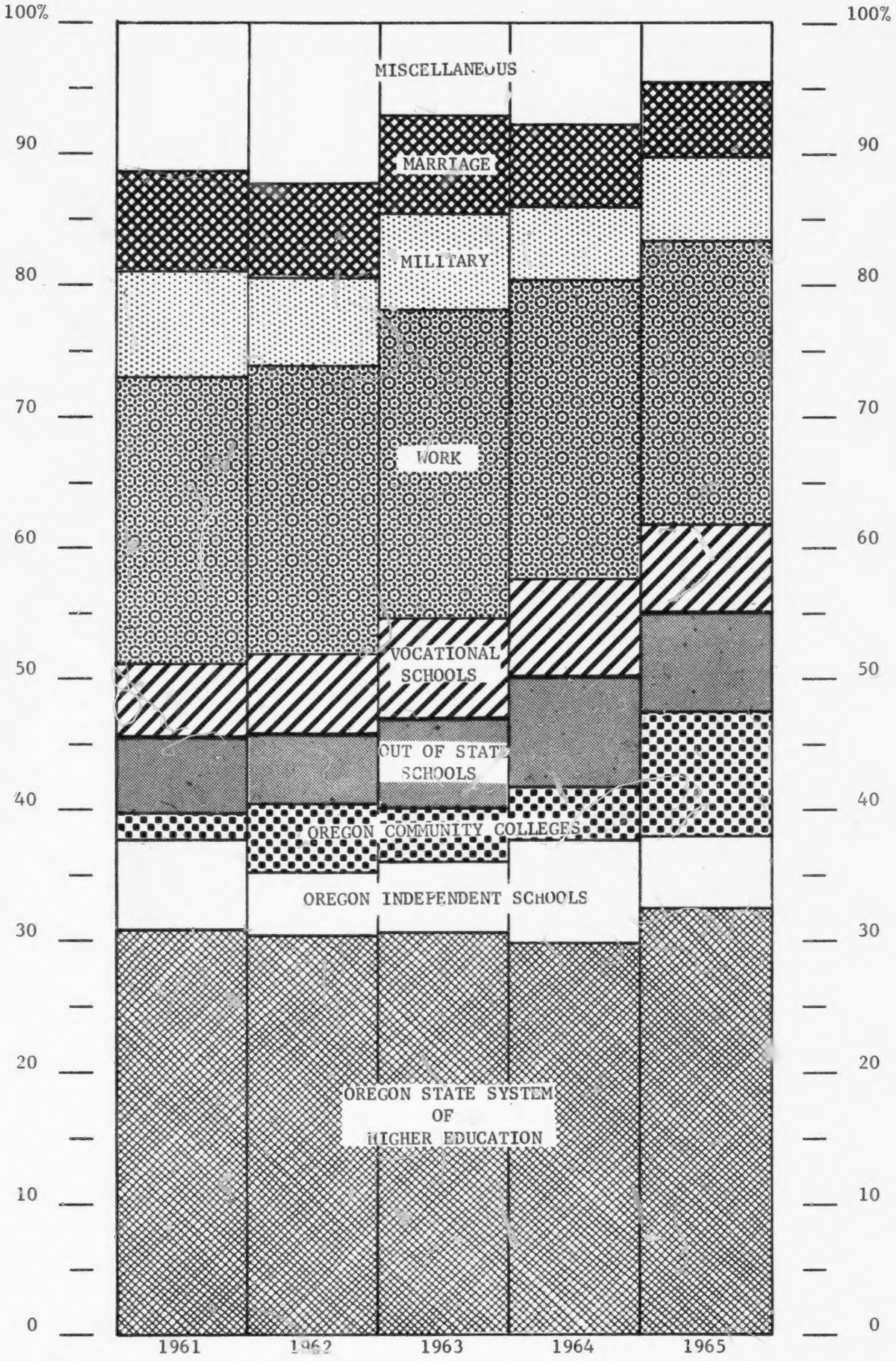


FIGURE XVIII

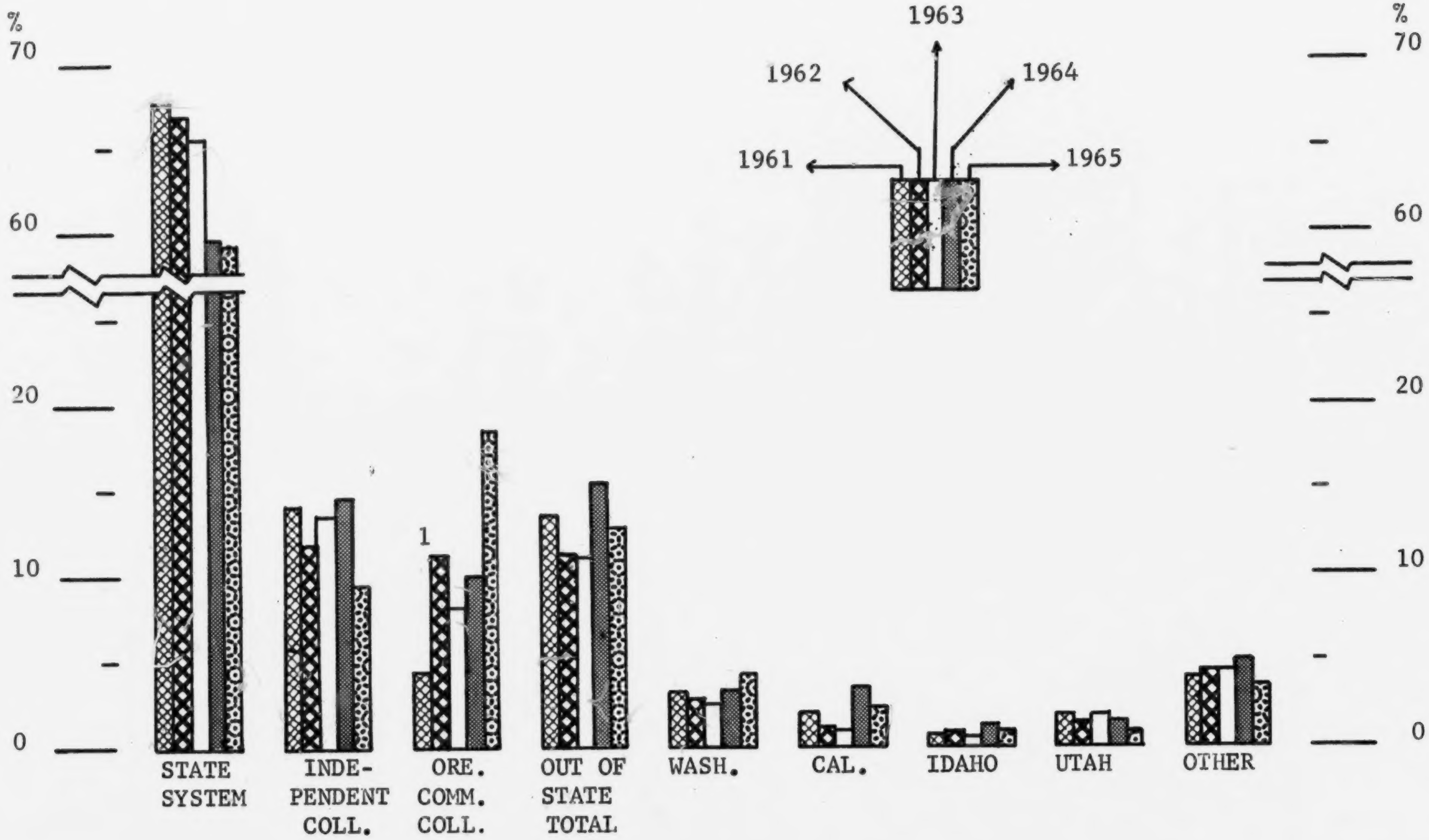
FIVE-YEAR COMPARISON OF THE POST-HIGH SCHOOL ACTIVITIES OF THE RANDOM 10 PERCENT SAMPLES OF THE GRADUATES OF THE CLASSES OF 1961-1965



Source: Office of High School Relations, State System of Higher Education

FIGURE XIX

WHERE OREGON HIGH SCHOOL GRADUATES ATTEND COLLEGE AS DETERMINED BY A RANDOM SAMPLE OF THE CLASSES OF 1961 THROUGH 1965



Note: 1961-62 figures include out-of-state junior colleges.
Source: Office of High School Relations, State System of Higher Education.

TABLE 35

POST-HIGH SCHOOL ACTIVITIES (IN SEPTEMBER FOLLOWING GRADUATION) OF OREGON HIGH SCHOOL STUDENTS RANKED IN THE TOP 10 PERCENT OF THEIR CLASS BY SCHOOL - 1961 THROUGH 1965

Activity in September Following Graduation	1961	1962	1963	1964	1965
1	2	3	4	5	6
Further Schooling					
Oregon State System Institutions	51.5	53.2	53.7	50.7	54.3
Oregon Technical Institute	.3	.1	.4	.3	.5
Oregon Independent Colleges and Universities	11.4	12.4	11.3	13.4	12.4
Oregon Community Colleges	.8	1.2	1.6	2.1	2.0
Total Oregon Colleges	64.0	66.9	67.0	66.6	68.7
Out-of-State Institutions	18.3	17.5	20.6	21.0	21.7
Total Colleges	82.3	84.4	87.6	87.5	90.4
Vocational School Attendance	3.7	3.0	3.8	4.0	2.2
Non-School Activities					
Work	5.7	4.7	5.2	4.2	4.1
Military Service	1.0	.6	.5	.6	.3
Marriage	4.2	3.4	2.3	2.6	2.1
Miscellaneous	3.1	3.9	.6	1.1	.9
Total Non-School	14.0	12.6	8.6	8.5	7.4
Students in Study[a]	2046	2117	2247	2646	3094
Schools in Study	199	210	216	220[b]	232[c]
Total Schools in State	219	218	216	245[d]	245[d]

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[a] Of the 199 high schools reporting, all reported on the activities of 100 per cent of the top 10 percent of their senior classes.

[b] Includes 11 private schools.

[c] Includes 19 private schools.

[d] Includes 29 private and 216 public schools.

In 1961, 51.5 percent of these students enrolled in state system institutions, with the percentage rising to 54.3 percent in 1965. Oregon independent institutions and Oregon community colleges enrolled, respectively, 11.4 percent and .8 percent in 1961, compared with the corresponding figures 12.4 percent and 2.0 percent for these institutions in 1965.

The proportion of these academically gifted students not going on to college in 1965 (9.6 percent) were engaged in the following activities in the fall of 1965: study in vocational school, 2.2 percent; working, 4.1 percent; military service, .3 percent; marriage 2.1 percent; and miscellaneous activities, .9 percent. Corresponding percentages for earlier years (1961, 1962, 1963, and 1964) are shown in Table 35.

An Increasing Proportion of Our Population Will Seek Post-High School Educational Opportunities

Numerous factors suggest the likelihood that an increasing proportion of Oregon's post-high school population will go on to post-high school educational and training activities. Among these are:

1. An increase in publicly supported post-high school institutions and agencies, bringing educational opportunities in closer proximity to the various sections of the state. Most significant in this respect is the increasing number of community colleges in Oregon and the rapid expansion of Portland State College.

2. The ever-widening range and variety of educational opportunities being brought within commuting distance of the people of Oregon. The community colleges are new in the state. As they mature and expand the range of their offerings, thus appealing to a wider range of interests and objectives, they will attract an increasing proportion of the population into their programs. And with the expansion of PSC's graduate offerings it may be anticipated that a new graduate student supply potential will be tapped.

3. The increasing student financial aid available from federal and state sources will have an impact on post-high school attendance, increasing the number of those who have the financial means for pursuing post-high school education and training activities. The recommendations of the Post-High School Committee are aimed at increasing these incentives to post-high school attendance in Oregon.

4. The upward pressures of economic and social life which make post-high school and continuing education a vital social and personal necessity.

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CHAPTER VI

Graduate Education

Graduate education is the capstone of higher education. The foundation upon which it builds is the four-year baccalaureate program. From this foundation, graduate education extends upward through:

- Programs leading to master's degrees - master of arts (MA) and master of science (MS) and selected professional school master's programs, such as the master of education (MEd), master of business administration (MBA), and master of librarianship (MLS).
- Programs leading to doctoral degrees - Doctor of Philosophy (PhD) and selected professional school doctoral degrees, such as Doctor of Education (EdD), Doctor of Business Administration (DBA), Doctor of Musical Arts (DMA).
- Post-doctoral programs - which are more and more commonly offered by major institutions.

In addition to the foregoing degree-oriented programs, there is a good deal of non-degree-oriented graduate-level education carried on simply in the interests of keeping abreast of developments in a given field, with no thought of applying the credits earned toward a graduate degree.

It is in the universities that graduate education has come to fullest flower. For graduate education is an essential characteristic of universities, though master's degree programs are found also in liberal arts colleges.

Scholars differ as to the date to be marked as the beginning of graduate education in the United States.[1] But there is general agreement that:

1. Research has, from the beginning, been at the heart of graduate education.
2. The greatest strides in graduate education have been made since World War II.
3. The demands upon graduate education in the next decade are going to be substantially heavier than ever before.

Purposes of Graduate Education

Early graduate schools came into being during a period when American higher education was expanding at a rapid rate and when its curriculum was undergoing substantive changes with the introduction of the sciences. "The graduate school," according to one writer, "came into being mainly under the pressure of the sciences and this, in turn, meant the primacy of research."[1]

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[1] Bernard Berelson in Graduate Education in the United States (New York: McGraw-Hill Book Company, Inc., 1960), p. 6, asserts that graduate education in the United States really had its beginning in 1876 with the organization of Johns Hopkins University. Earlier efforts of such institutions as Harvard, Michigan, Yale, Columbia, and Pennsylvania to establish graduate education, Berelson says, failed. Walter Eells, on the other hand, bridles at calling failures programs which produced more than 100 earned doctorates before 1876 (School and Society, March 25, 1961, pp. 142-43).

It was the conviction that scientific and scholarly inquiry is the primary purpose of the university that led Thorstein Veblen,[2] in 1918, to urge that the undergraduate college with its genteel tradition, and the professional schools, whose purpose Veblen considered to be wholly vocational, be separated from the university. Thus, he urged, the university would be left with the graduate school, which could give itself over to scientific and scholarly inquiry - its professors and students working together in a master-apprentice relationship serving the primary purpose of extending the bounds of knowledge and the subsidiary, but important, purpose of training new research workers.

> The conservation and advancement of the higher learning involves two lines of work, distinct but closely bound together; (a) scientific and scholarly inquiry, and (b) the instruction of students. The former of these is primary and indispensable. It is this work of intellectual enterprise that gives its character to the university and marks it off from the lower schools. The work of teaching properly belongs in the university only because and in so far as it incites and facilitates the university man's work of inquiry, - and the extent to which such teaching furthers the work of inquiry is scarcely to be appreciated without a somewhat extended experience. By and large, there are but few and inconsequential exceptions to the rule that teaching, as a concomitant of investigation, is distinctly advantageous to the investigator; particularly in so far as his work is of the nature of theoretical inquiry. The instruction necessarily involved in university work, therefore, is only such as can readily be combined with the work of inquiry, at the same time that it goes directly to further the higher learning in that it trains the incoming generation of scholars and scientists for the further pursuit of knowledge. Training for other purposes is necessarily of a different kind and is best done elsewhere; and it does not become university work by calling it so and imposing its burden on the men and equipment whose only concern should be the higher learning. . . . The instruction that falls legitimately under the hand of the university man is necessarily subsidiary and incidental to the work of inquiry, and it can effectually be carried on only by such a teacher as is himself occupied with the scrutiny of what knowledge is already in hand and with pushing the inquiry to further gains. And it can be carried on by such a teacher only by drawing his students into his own work of inquiry.[3]

Veblen's emphasis on the need of the university to "conserve and extend the domain of knowledge" is in the nature of a "given," though the elimination from the university of the undergraduate college and the professional schools as a means of furthering this aim has obviously not been accepted. The undergraduate colleges and the professional schools have undergone some profound changes since Veblen's time. We believe that graduate professional school programs are and ought to be a significant aspect of a university's graduate education offerings. We believe with Wallis that: "The trend in all professional schools . . . is strongly away from exclusive reliance on a how-to-do-it approach, and toward the introduction into the curriculum of the basic sciences underlying the practice of the profession. Correspondingly there is a pronounced trend in professional schools toward research in these basic disciplines."[1]

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[1] R. K. Murray, "The Effect of a University's Graduate Program on Its Undergraduate Education," Journal of Higher Education, Vol. XXXII, No. 5 (May, 1961), p. 260.

[2] Thorstein Veblen, The Higher Learning in America - A Memorandum on the Conduct of Universities by Business Men, ed., Louis M. Hacker (American Century Series; New York: Sagamore Press, Inc., 1957). On p. ix Veblen characterized the undergraduate college as follows: "A 'gentleman's college' is an establishment in which scholarship is advisedly made subordinate to genteel dissipation, to a grounding in those methods of conspicuous consumption that should engage the thoughts and energies of a well-to-do man of the world." This is scarcely an apt description of most undergraduate colleges of today.

[3] Veblen, ibid., pp. 12-13.

In summary, we view graduate education as having for its principal purposes: (1) the extension of the bounds of knowledge in the sciences, humanities, and social sciences through research and independent inquiry, (2) the extraction, from the store of basic knowledge, of rules and techniques leading to practical applications of knowledge, (3) through the foregoing activities, the development of a continuing supply of well-qualified scholars, researchers, teachers, professional leaders adequate to the needs of a changing society.

Graduate Education the Pacesetter

Graduate education is today the heart of the universities. The prestige of the university, its stature in the academic world, its ability to attract and to retain distinguished teacher-scholars, the status it enjoys with the private foundations and the federal governmental agencies, which dispose of very large sums of money to academic institutions, its ability to attract outstanding students at both the graduate and undergraduate levels, are dependent in substantial measure on the reputation of its graduate school.

This dominance of graduate education in the universities is regarded with ambivalence in the academic community. Some view it as having had a most unfortunate impact upon undergraduate education. Others, also with impeccable academic credentials, are equally convinced that the entire institution, including undergraduate programs, has benefited enormously from graduate education's ascendancy.

Illustrative of the former position is Earl J. McGrath, who, as a key figure in the Institute of Higher Education at Columbia University, enlarged upon this theme in The Graduate School and the Decline of Liberal Education.[2] It is McGrath's conviction that the graduate schools have subordinated teaching to the research function, raided undergraduate staffs, broken the morale of those whose principal strength lies in their teaching prowess; that the graduate schools largely dictate, through sponsored research, the curricular future of higher education, and that they have generally been destructive of liberal education. Referring to this dominance of graduate education and graduate research, another writer, Murray, refers to the latter as the "omnivorous beast of the academic forest."[3]

In a continuation of the debate as old as graduate education in this country, Berelson (Graduate Education in the United States) denies much of what McGrath has said.[4] It is the high-quality graduate programs that distinguish the leading educational institutions from the mediocre ones, Berelson insists. And by Berelson's lights, the clientele of the graduate schools (students and employers) are quite satisfied with them as they are.

While the debate continues, the compelling and insistent demands of our times have thrust graduate education center stage, where it is likely to remain. Whether ruthless and malevolent or felicitous and benign in its relationship with undergraduate education, graduate education is, and will remain for the next decade, at least, the pacesetter of the whole educational enterprise.

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[1] W. Allen Wallis, "Centripetal and Centrifugal Forces in University Organization," Daedalus, Journal of the American Academy of Arts and Sciences Vol. XCIII, No. 4, (Fall, 1964), p. 1075.

[2] Earl J. McGrath, The Graduate School and the Decline of Liberal Education, (New York City: Bureau of Publications, Teachers College, Columbia University, 1959).

[3] Murray, loc. cit., p. 261.

[4] Berelson, op. cit.

In truth, graduate and undergraduate education live in a symbiotic relationship. The advanced curricula in the sciences, humanities, and social sciences and the professional programs at the graduate level, cannot prosper except they be built upon a strong and flourishing liberal arts base. Cut off from the liberal content that leads to general understanding and wisdom, graduate education in the academic fields tends to become too narrowly specialized and professional education becomes vocational education. The removal of "professional" work to the later years of college, and, increasingly, into the post-baccalaureate years, recognizes the need for the development of a strong liberal education base during the college years, as preprofessional preparation. Medicine, dentistry, law, science, business administration, professional education, and engineering are increasingly requiring graduate work in the development of the qualified professional person in order that the undergraduate years may be more fully given over to a liberal education.

But the graduate school, in turn, makes a substantial contribution to the undergraduate education. The atmosphere of creative thinking, of search and discovery, in the graduate school helps to set the whole intellectual tone of an institution and to breed in students, both undergraduate and graduate, a taste for intellectual excellence. It is said, with some justification, we believe, that such an environment makes easier the recruitment of high-quality junior staff members for the undergraduate program.

An interesting affirmation of the importance of the research atmosphere to undergraduate programs is contained in a British journal of a short time ago.

> In many industrial countries the volume of scientific and technological research being carried out in institutions outside the universities is very great and there is a danger that some universities are losing to them even basic research. Sir Nevill Mott, in a paper read to the Gulbenkian Educational Discussion of 1960, put the case for the universities in these terms. "At least in their final honours year, undergraduates should be in close contact with the people who are advancing or have advanced knowledge. Secondly, that staff of good calibre could not be attracted unless there was research going on. . . . Thirdly, that the whole ethos of the university implies research; it is a place where outstanding men in all disciplines shall come to teach and research and be free to be as non-conforming as their studies and interests lead them. Unless the Universities hold to this function as great reservoirs of outstanding free men, the whole community would lose. . . . The academic ramparts are not merely under siege, they have already been crossed by the marauders - the research institutes - by and large the process of creating institutes has gone too far. It is debilitating the universities and it is high time it stopped."[1]

The Growth of Graduate Education

Graduate enrollments in the United States have grown at what one writer refers to as a "phenomenal rate," approximately doubling in each decade since 1900.[2] Using the statistics, "Entering Full-Time Graduate Students," compiled by the Office of Education since 1959 and estimated for earlier years by Allan Cartter, it would appear that the number of full-time graduate students has increased from 38,000 in 1950 to 69,000 in 1960 (81.6 percent increase), and is projected to reach 148,000 by 1970 (114.5 percent increase over 1960), and 219,000 by 1980 (48.0 percent increase over 1970).[1]

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[1] The University of Leeds Institute of Education, Research and Studies (Leeds, England: The University of Leeds, April, 1962), No. 23, pp. 24-25.

[2] Allan M. Cartter, "The Decades Ahead: Trends and Problems," Graduate Education Today, ed., Everett Walters (Washington, D. C.: American Council on Education, 1965), p. 229.

Again referring to Cartter's figures, 6,400 doctoral degrees were awarded in 1950, 9,800 in 1960 (53.1 percent increase), with an estimated 23,100 in 1970 (135.7 percent increase over 1960), and an estimated 36,800 in 1980 (59.3 percent increase over 1970).[2]

A National Science Foundation study estimates the following number of doctorates will be awarded (exclusive of medicine): 1970, 21,C00; 1980, 56,000 (166.6 percent increase); 1990, 87,000 (55.4 percent increase over 1980); and 2,000 A. D., 123,000 (41.4 percent increase over 1990).[3]

Factors Relating to Growth in Graduate Education

The explanation of this rapid growth in graduate enrollments, aside from increases in the general population and undergraduate enrollments, may be found largely in two factors: (1) the recognized importance of research to all aspects of our well-being, and (2) the increasing demand for persons with graduate training, which has placed upon the graduate programs in the colleges and universities heavy responsibilities in meeting the manpower needs of the nation. There is every indication that these two forces will generate increasing demands for graduate education facilities and resources in the next decade as they have in the recent past.

Research and Graduate Education

In graduate education, instruction and research are inseparable. The whole spirit of graduate education implies research. Two of the principal obligations of graduate education rest solidly upon a research foundation, namely the extension of the bounds of knowledge and the production of qualified researchers to meet the insatiable demands of higher education, government, business and industry, for such personnel.

In that all research is dedicated to the discovery of new knowledge, deriving new theories and testing already established theories, all research is of a piece. Yet, to describe the differences in the objectives pursued by the research scholar, the terms basic research and applied research are commonly employed.

Basic research - often referred to as pure research - is inquiry undertaken for the advancement of knowledge, usually without thought of its possible practical use. Basic research is a search for knowledge for the sake of knowledge. Before World War II, nonprofit institutions and universities had a virtual monopoly on basic research. They are still spending more for basic research than is industry, although particular companies do extensive basic research in the general areas in which their interests lie, hopeful that knowledge thus acquired may later be turned to a useful purpose for the company.

Applied research, on the other hand, has purely practical aims. It is undertaken for the purpose of finding ways of making useful applications of knowledge. In the process, additional basic knowledge may be discovered, but the fundamental aim of applied research is a practical one of turning knowledge to useful application. The universities engage in applied research, though this is less often their focus than basic research.

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[1] Ibid., p. 227.

[2] Ibid., p. 227.

[3] National Science Foundation, Comparisons of Earned Degrees Awarded 1901-1962 - With Projections to 2000 (Washington, D. C.: National Science Foundation, 1964), p. 54.

In the nearly twenty years since World War II, research has become one of our major industries. In this development, the universities have had a significant role, which is reflected in increasing research budgets and in increasing enrollments in advanced graduate programs which rest solidly upon a research base. The war changed the universities. The investment by the federal government in the research, which led to the discovery by university scientists of the secrets of atomic fission and other militarily significant knowledge in the fields of propulsion and communication, dramatized the productivity of research when adequately supported. The relevance of educational support to national defense had been clearly demonstrated. Thereafter, the federal government's investments in research in the colleges and universities was to increase continuously.

At war's end, the colleges and universities continued government-sponsored research. In 1950, the National Science Foundation was established to "promote the progress of science." The emphasis of the National Science Foundation has been almost exclusively on promoting basic research, primarily in the physical and life sciences in which areas it has had a profound effect upon the research efforts of the nation's colleges and universities. During the 1950's, the National Science Foundation, the Department of Health, Education and Welfare, and the National Aeronautics and Space Administration became principal channels through which federal research funds were channeled into the colleges and universities.

By the mid-1960's, federal support of research in the colleges and universities had reached a level which had scarcely been contemplated by anyone a decade earlier. A 1965 report of the National Science Foundation states that, in 1963, federal research and development funds accounted for approximately 65 percent of research and development expenditures by colleges and universities proper, excluding the federal contract research centers they operate.[1] ". . . More specifically, federal contracts and grants provided funds for 55 percent of expenditures by educational institutions proper for basic research and slightly over 85 percent of expenditures by them for applied research."[2]

Federal government obligations for basic research, "current fastest growing component within research and development," amounted to an estimated $1.8 billion in 1965, roughly 12 percent of the total research and development funds (excluding Research and Development plant) estimated to have been spent in 1965 by the federal government. Of this $1.8 billion, NSF reports that educational institutions proper were the largest recipients, receiving 35 percent, with approximately 10 percent additional being obligated to federal contract research centers operated by these educational institutions. Industrial and intramural performers each received slightly over 20 percent of the $1.8 billion.[3]

Applied research funds ($3.25 billion) accounted for an estimated 22 percent of federal obligations for research and development in 1965. Of this amount, educational institutions, including research centers administered by these institutions, received 20 percent, principally from the Departments of Health, Education, and Welfare and Defense.[4] It will be recalled that the federal funds received in 1963 by the educational institutions for applied research amounted to an estimated 85 percent of the applied research funds expended by the institutions in that year.

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[1] National Science Foundation, Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1964, 1965, and 1966, NSF 65-19 (Surveys of Science Resources Series; Washington, D.C.: U.S. Government Printing Office, 1965), Vol. XIV, p. vii.

[2] Ibid., p. vii.

[3] Ibid., pp. 6, 8.

[4] Ibid., pp. 10, 12.

It is not our purpose at this juncture to discuss the merits of federal support of education, or the impact of federal support of research upon the character of the institutions receiving the same. Our purpose in citing the expanding role of the federal government in the support of research in our colleges and universities is merely to suggest that this increasing federal support is one of the most important factors in accounting for the increase in graduate enrollments in recent years. The research and training stipends to students, the direct aid to institutions providing graduate education for holders of research or training appointments, the large federal sums allocated on the basis of contract - these and all of the other guises in which aid to the graduate programs has come have had a profound effect on the number of graduate school enrollments.

A somewhat more indirect effect on graduate school enrollments has been the impact of increasing business and industrial demands for qualified research workers growing out of industry's greatly expanded investment in research. One very rough index of the increasing interest of business and industry in research is the increase in the number of industrial research laboratories in recent years. The first edition (1920) of Industrial Research Laboratories of the United States listed 290 companies. The 1964 edition listed 5,200 laboratories. It is an interesting, if somewhat irrelevant, fact that the federal government is playing a significant role in the support of research and development activities of industry, as it is in the colleges and universities. The National Science Foundation report, referred to earlier, states that in 1963 approximately 30 percent of industry's expenditures for basic research and 40 percent of its expenditures for applied research were financed by federal agencies. And of the funds spent by industry for development, it is reported that in 1963 approximately 65 percent came from federal sources.[1]

Something of a feel for the nature of the transition which occurred in industry's interest in research is provided by the following somewhat dated, but still useful, description by A. H. Raskin of what was, and how things changed, in industrial research.

> . . . in only a few /companies/ was there any systematic assault on the frontiers of knowledge; research departments were tucked away in corners of factories; funds and facilities for long-term studies were rarely available; complex assignments were farmed out to colleges or universities. Where large numbers of engineers were kept for development work, they often sat in regimented ranks in block-long lofts. Today industrial research is conducted in centers that have more kinship to a graduate campus than to any industrial plant. Bright young Ph. D.'s in physics, chemistry and mathematics hold skull sessions with seasoned colleagues. Abstruse figures are drawn on blackboards. Ideas fly through the pipe smoke. Atom smashers, spectrometers, electron microscopes, computers, furnaces - all of these are to be found in corporate laboratories.[2]

L. V. Berkner's assertions as to the efficacy of research are both descriptive of what has evolved from the rapid expansion of research since World War II and prophetic of the impact of applied science upon social and economic life of the future and the probable continuing effect on the demands for graduate education.

> Innovation is the new element in our situation - the third great force bearing on the situation. Where traditionally wealth has derived from the mere application of labor to basic resources, the science of today has created a new source of wealth - innovation derived from science and technology created by brainpower.

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[1] Ibid., p. vii.

[2] New York Times Magazine, May 13, 1958.

No longer can mere labor applied to natural resources enlarge our productive market. An intervening ingredient - brainpower - must be available to provide the innovation that can expand our economy into new products and services.

So brainpower becomes the resource upon which our nation must depend for its future economic and social health. Brainpower has become the principal source of future welfare of the 100 great metropolitan areas that soon will contain the bulk of American population.

. . . .

Thus, at the mid-20th century the stage was set for a new and more far-reaching socio-economic revolution which we now call the technological revolution in contra-distinction to the old and limited industrial revolution. This technological revolution arises from the power of the new science and from the precept discovered during World War II that our new science, when consistently applied to any technology can revolutionize that technology in form, function, and efficiency. This technological revolution that began at the mid-century is based on a completely new insight into nature, and the new ability to uncover otherwise hidden natural phenomena and to manipulate natural processes that were heretofore inconceivable. We can confidently predict that this new technological revolution now rising from a radically modified science will have inevitably a most profound effect on our industry, our daily living, and our future society.

As forerunners of the change to come we have already seen the emergence of nuclear energy with all its problems, and of the commencement of space travel with all its implications. This is but the beginning. We are on the threshold of a world with quite new and far more effective materials for every sort of application. Our concepts of structure, dating from the ancient engineering precepts of the Babylonians, are finally due for radical changes. With forthcoming communications and data systems, we can foresee far more efficient organization and control of industrial processes. New forms of industrial complexes will arise which are as different from the present as were 19th century factories from the village workshop.

. . . .

Since brainpower has become the critical ingredient in the enlargement of national wealth, what are we doing to acquire a sufficient supply of this catalyst? For to capture and control the potential of our new technology, to create new industry from it, to direct it for our benefit, we must have men who understand and can manipulate intelligently the fundamental science from which it is generated.

Obviously, the ideas underlying the technology of today are abstruse and highly mathematical in nature. So to comprehend these ideas, and to manipulate the technology born of them intelligently, we require men of very advanced education in substantial numbers. This does not mean a mere four-year college education, for the ideas involved are at the very boundaries of knowledge. The education required is really advanced. Command of the new technology and of the science from which it is derived requires post graduate education to the doctor's degree and beyond - not less than eight years beyond the high school diploma. Of course, men of lesser training can be usefully employed in technological industry. For each Ph. D. we can employ 5 to 10 engineers, and for each engineer we can use 10 to 15 skilled workers. But the creation of new industry, new products and devices, new methods and applications from the new technology arises from creative and imaginative insights of scientific and technological leaders who have access to the very limits of knowledge. Without that flavor of top skill for real innovation, men of lesser skill will lose their opportunity.

So I would make the point unambiguously: No training of numbers at the trade-school, high school, or college level can in itself capture the new technology. Indeed, in the future we may have to count 100 or more unemployed for each Ph. D. we fail to educate. The key to the new technology is derived from the boundaries of knowledge - from training at the doctoral level and beyond. Those communities that can produce and retain men of advanced education will have access to and control of the new technology from which the industry and wealth of the future will flow. They will have the power to create opportunity for full employment at all levels.

From these centers of educational strength and technological power must inevitably flow a new form of colonialism. Just as the industrial revolution produced a colonialism stemming from the centers of manufacture, so the technological revolution of today will produce a new colonial dependence on the community sources of brainpower from which the new sources of economic control will inevitably arise.

In this new colonialism, management with their research laboratories will center near the great universities. For accessibility to and immersion in ideas is the key to successful management in the future. No longer are labor, land, or water supply the central concerns in locating the headquarters plant. Instead, accessibility to brainpower takes first place. Removed from the centers of brainpower, the less fortunate communities must console themselves with branch plants and services operated, administered and manipulated by some distant management.[1]

Meeting the Manpower Needs

The manpower needs of a society such as ours are enormous - and growing. As the principal supplier of qualified and trained personnel for positions requiring advanced education, the graduate programs of our colleges and universities are besieged by employing agencies and institutions caught up in what is, in many instances, a fierce competition for the limited supply of qualified persons, of which the following are only illustrative.

- Trained researchers in wide-ranging fields. What has earlier been said of the exalted place of research in the American scheme of things suggests something of the extent of the demand that exists for trained researchers in the public and private sectors of our economic and social life. The federal governmental agencies and research laboratories, the state and local governments, the industrial research laboratories, private companies bent on capturing or retaining a desired share of the market or in expanding the range of their products, educational institutions concerned with staffing graduate programs which will produce a new generation of scientists - these all, and many other types and kinds of agencies and organizations, depend upon our colleges and universities for the qualified researchers without which they could not prosper. The demand is particularly heavy in the physical sciences (physical sciences proper, engineering sciences, and mathematical sciences) and in the life sciences (medical sciences, biological sciences, and agricultural sciences) in which areas the bulk of the federal government's basic and applied research funds have been lodged over the years. The American Council on Education study of graduate education suggests something of the nature of the demand in these fields, as follows:

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[1] L. V. Berkner, Remarks at the National Science Foundation Colloquium, Dallas, Texas, December 12, 1962.

> . . . It has been reported that one of the giant computer companies would willingly employ the entire crop of Ph. D.'s in mathematics; that the Federal Government has employed almost as many Ph. D.'s as the ten leading universities; and that doctoral candidates in psychology, especially those clinically oriented, were spoken for long before they received their degrees.[1]

And there is demand, too, for persons with advanced graduate degrees in a great many other fields, such as sociology, economics, business, etc.

- Qualified professional personnel to man the administrative and leadership positions in government, business, and the professions requiring graduate education. The need here is very great. To the domestic needs must now be added the needs growing out of our commitments overseas through the extensive programs of foreign aid which have come into being in recent years. One has only to examine the number and the character of the graduate degrees being offered by graduate schools the country over to be aware of the wide range of fields in which advanced graduate education must be offered to meet the need.

- Qualified teachers for the elementary and secondary schools and for the colleges and universities. The need for qualified teachers in our schools and institutions of higher education is basic to all other manpower needs. Lacking adequate faculties, these institutions cannot produce the qualified manpower upon which all other enterprises depend. The great challenge to the colleges and universities is to prepare enough persons with advanced degrees in the various fields so that the institutions of higher education can be adequately staffed and, at the same time, meet demands from government, business, and other sources, for personnel of advanced education in the sciences and social sciences, in particular.

  In the period prior to World War II, manpower needs had a greater impact on increasing graduate education enrollments than did recognition of the values of research. As a matter of fact, it was the colleges and universities, which, prior to World War II, were principal contributors to the demand for persons with advanced education and training. They became increasingly unwilling to employ as faculty members persons not having a graduate degree. Increasingly they sought to employ persons holding the doctorate. In this move, the colleges and universities were encouraged by the accrediting associations and various professional groups at the national level which viewed the proportion of faculty holding the doctorate as one measure of the quality of staff.[2]

  The elementary and secondary schools added to the demand when school administrators in particular, and teachers in the secondary schools to a lesser extent, began, during the period prior to World War II, to recognize the values of advanced education. Many sought master's degrees. This was a trend which was to take hold and, in the post-World War II period, sweep the country.

Beyond their functions in training new generations of researchers, business and governmental leaders, and professional men in many walks of life, including teachers, the colleges and universities play another significant role in meeting manpower needs.

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[1] Everett Walters, "The Rise of Graduate Education," Graduate Education Today, (Washington, D. C.: American Council on Education, 1965), p. 24.

[2] Ibid., p. 19.

We have reference here to the consultative and advisory function of graduate faculties. The faculties of high-quality graduate schools are a resource which science-based industry feeds upon and to which business, government, and the professions turn for consultative assistance in keeping abreast of developments germane to their effective operation. Ready access to expert consultant assistance is a resource of great value to those segments of society in which access to research and to balanced judgment on abstruse and complicated matters is important. The productive symbiosis that characterizes the relationship of faculties in first-rate graduate schools to the world of business, industry, government, and the professions is too well known to need documentation here.

Graduate Education in Oregon

Graduate education is crucial to the future of Oregon. For it is in the graduate programs of our colleges and universities that brainpower can be given full rein to develop to its fullest potential in the many predictable and unpredictable ways that freedom, within an optimum environment, fosters.

We believe that brainpower is the dominant and critical ingredient in shaping Oregon's future. Thus believing, our concern is how most effectively to promote and strengthen education in Oregon, in particular, graduate education. We turn first to a consideration of the range and scope of the graduate programs currently available in the public and independent colleges and universities of the state.

Graduate Education Offerings in State System Institutions

Graduate education in the State System of Higher Education has developed under a system of allocations established by the Oregon State Board of Higher Education, which came into being in 1929 as a successor to the Oregon State Board of Higher Curricula, which had been established earlier (1909).

Under the allocations system established by the Board (1932), described in some greater detail in Chapter IX of this report, all graduate work was initially allocated by the State Board of Higher Education to the University of Oregon and Oregon State University (then Oregon State College). (The University of Oregon Medical School then, as now, was in Portland. The Dental School has been added to the University since 1932.)

The University of Oregon (Eugene campus) was given the allocation for all graduate work in the humanities and social sciences and the professional schools considered to be most closely related thereto, namely, architecture and allied arts, business administration, journalism, law, music, and physical education.

Oregon State University was allocated graduate work in the sciences and related professional schools, namely, agriculture, engineering, forestry, home economics, pharmacy, and secretarial science. Both institutions (at Eugene and Corvallis) were authorized schools of education. The University of Oregon was awarded the allocation in educational administration and special education, Oregon State University in educational and vocational guidance.

Graduate program allocations have been modified from time to time since 1932, in accordance with changing times and the changing needs of the state, but always reflecting the unchanging aims of the board, namely, to avoid unnecessary and undesirable duplication of graduate and other specialized offerings in the state system while providing, in the programs offered, the greatest strength possible.

A principal development of recent years in graduate education has been the emergence of Portland State College as an institution of rapidly rising enrollments, and the decision by the State Board of Higher Education to build a graduate superstructure upon PSC's undergraduate base. Of this more will be said later.

There is no useful purpose served here in following, in detail, the evolution of the graduate programs in the institutions of the state system since the initial allocations in 1932. We present here, however, as a matter of interest and importance, the present graduate allocations in the state system institutions (Table 36, pp. 153-54).

Measured in terms of variety of programs offered, variety of degrees offered, graduate enrollments, and the number of graduate degrees conferred annually, the major graduate education resources of Oregon are presently centered at the two universities at Corvallis and Eugene. However, measured by the amount of separately budgeted research funds, the Medical School in Portland takes its place alongside the University of Oregon (Eugene campus) and Oregon State University. Apart from the graduate work offered in Eugene and Corvallis, graduate degrees (master's and doctor's) in seven of the basic life sciences are offered in the Medical School in Portland; Portland State College offers three professional master's degrees (two in education and one in social work) and is authorized (1966-67) to offer five departmental master's degrees in academic subject matter areas. Additional master's degree authorizations have been given PSC by the board, effective 1967-68 and 1968-69 as described on pp. 175, 176. Limited graduate offerings serving primarily teachers in the elementary and secondary schools are offered in the regional institutions (EOC, OCE, SOC). The Dental School offers master's programs in professional and basic science areas, and the School of Nursing a master's program in nursing education. But the two universities are by the measures suggested above the dominant graduate institutions of the state. Though not itself a degree-granting institution, the Oregon Regional Primate Research Center is an important adjunct to graduate education in Oregon. The University of Oregon Medical School is the host institution for the Center.

Graduate Education Offerings in the Independent Colleges and Universities

The graduate offerings of the independent colleges of Oregon are shown in Table 37, p. 155. It will be observed that Pacific University and the University of Portland report the largest number of master's degree programs, 12 at Pacific and 14 at Portland. The doctoral offerings in the independent colleges are limited to one program at Pacific University (optometry), one at Willamette University (law), and three at the University of Portland (education, educational administration, and psychology).

In terms of graduate enrollments, the two largest independent institutions are the University of Portland (327 in 1964-65) and Willamette University (198 in 1964-65). These two institutions accounted for 525 of the 703 graduate enrollments reported in 1964-65 in the independent colleges.

Oregon Graduate Research Center

Though not a graduate degree-granting institution, the Oregon Graduate Research Center must not be overlooked as a resource with possible important implications for graduate research in Oregon. The center is an outgrowth of a series of reports prepared by committees appointed by the Governor over a period of years in the recent past, which came to fruition with the appointment of a Board of Trustees to establish and assume oversight of the center. The resources of the center consist principally of a building in Beaverton, donated to the center, and funds derived from contributions from interested corporations and individuals. The center seeks to stimulate the development of graduate research in the Portland area and has, as a beginning, developed a relationship with Portland State College to which institution it has made a grant in support of research in applied science. It is expected that it will expand these kinds of stimulating relationships with PSC and other institutions in the state.

TABLE 36

FIELDS IN WHICH GRADUATE PROGRAMS ARE OFFERED IN INSTITUTIONS OF STATE SYSTEM OF HIGHER EDUCATION AS OF 1966-67[1]

	Doctor's and Master's Degrees Offered							
	OSU		UO		UOMS & DS		PSC	OCE,SOC EOC
Subject Matter Field	D	M	D	M	D	M	M	M
1	2	3	4	5	6	7	8	9
Agriculture	x	x						
Anatomy					x	x		
Anthropology			x	x				
Applied Science							x	
Architecture				x				
Art				x				
Asian Studies				x				
Bacteriology					x	x		
Biochemistry					x	x		
Bioengineering		x						
Biology			x	x				
Botany	x	x						
Business Administration		x	x	x				
Chemistry	x	x	x	x			x	
Classical Languages				x				
Comparative Literature			x	x				
Dentistry					x	x		
Economics			x	x				
Education	x	x	x	x			x	x
Engineering	x	x						
English			x	x				
Entomology	x	x						
Fine Arts (including Creative Writing)				x				
Forestry	x	x						
General Science	x	x						
Genetics	x	x						
Geography		x	x	x				
Geology	x	x	x	x				
Germanic Languages			x	x			x	
Health			x	x				
History			x	x				
Home Economics	x	x						
Industrial & Labor Relations				x				
International Studies				x				
Journalism				x				
Juvenile Correction				x				
Landscape Architecture				x				
Library Science				x				
Mathematics	x	x	x	x			x	
Medical Psychology					x	x		
Medical Technology						x		
Medicine					x			
Meteorology		x						
Microbiology and Hygiene	x	x						
Music			x	x				
Nursing						x		
Oceanography	x	x						

TABLE 36 - (Continued)

	Doctor's and Master's Degrees Offered							
	OSU		UO		UOMS & DS		PSC	OCE,SOC EOC
Subject Matter Field	D	M	D	M	D	M	M	M
	2	3	4	5	6	7	8	9
Overseas Administration				x				
Pathology					x	x		
Pharmacology	x	x			x	x		
Pharmacy	x	x						
Philosophy			x	x				
Physical Education			x	x				
Physics	x	x	x	x			x	
Physiology					x	x		
Political Science			x	x				
Psychology			x	x				
Public Administration				x				
Recreation			x	x				
Romance Languages			x	x				
Social Work							x	
Sociology			x	x				
Speech			x	x				
Statistics	x	x						
Urban Planning				x				
Zoology	x	x						

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[1] These areas of subject matter specialization leading to advanced degrees are as listed in the respective institutional catalogs. Such a listing appears to make some fields more discrete than in actuality they really are.

TABLE 37

INSTITUTIONAL DIVISIONS AND MAJOR STUDIES OR OTHER CONCENTRATIONS LEADING TO A MASTER'S OR DOCTOR'S DEGREE INDEPENDENT COLLEGES AND UNIVERSITIES OF OREGON[1]

Subject Matter Areas	Lewis & Clark		Linfield		Pacific		Reed		Univ. of Portland		Willa-mette	
	-Degree Offered-											
	M	D	M	D	M	D	M	D	M	D	M	D
1	2	3	4	5	6	7	8	9	10	11	12	13
Biology					x							
Business Adm.									x			
Drama					x				x			
Economics					x							
Education			x				x		x	x		
Education Adm.	x								x	x		
Education, Elementary	x											
Education, Secondary	x				x				x		x	
English									x			
History					x				x			
Law												x
Library Science									x			
Literature					x							
Music	x								x			
Music, Applied									x			
Music Education	x								x		x	
Optometry					x	x						
Phy. Education and Health					x							
Physics			x									
Psychology			x		x				x	x		
Social Science									x			
Social Studies					x							
Sociology					x							
Speech					x				x			

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[1] As reported by these institutions, May, 1966.

Growth in Graduate Degrees Awarded in Oregon

1. The number of academic and professional doctoral degrees (exclusive of medical, dental, and optometry degrees) awarded by Oregon public and independent universities has increased by roughly one-and-one-half times (144.3 percent) in the nine years from 1955-56 to 1964-65 (Table 38). In 1955-56, 115 academic and professional degrees (exclusive of the medical, dental, and optometry degrees) were awarded. In 1964-65, there were 281 such degrees awarded. However, a portion of this increase is the result of a change in degree requirements in the field of law at Willamette University, resulting in a substantial increase, in 1964-65, in the number of JD (doctor of jurisprudence) degrees awarded.

2. The number of medical, dental, and optometry degrees awarded remained almost constant from 1955-56 to 1964-65. It seems obvious that Oregon's output in the medical and dental areas, if adequate to the needs in 1955-56, has fallen behind in the interim. This is a matter which warrants serious consideration by the state.

3. The number of master's degrees awarded in the academic and professional fields by Oregon public and independent colleges and universities has increased roughly one-and-one-half times (140.4 percent) in the nine years from 1955-56 to 1964-65. The state system institution increase in master's degrees awarded has been at roughly twice the rate of that of the independent colleges and universities. The state system institutions awarded 555 master's degrees in 1955-56, and 1,396 in 1964-65 (151.5 percent increase). Corresponding figures for the independent colleges and universities were 93 and 162, an increase of 74.2 percent.

4. If the number of graduate students and graduate degrees to be awarded were to increase only in proportion as the undergraduate enrollments increase, there would be a very substantial increase to be expected in the future in the graduate areas. The foregoing seems a reasonable assumption, if somewhat on the conservative side. Cartter, estimating for the national scene, observes that in past years the doctorates awarded have averaged between a fifth and a fourth of entering graduate students five years before, and assumes in projecting the figures to 1980 that this percentage will remain at 20 percent. Acknowledging that making estimates as to graduate degrees to be awarded 15 years in advance is hazardous, Cartter summarizes by saying:

> More important, however, no matter how accurate the actual projections for the next decade or two, the direction and magnitude of change are clearly indicated; the supply of potential graduate students should more than triple during the 1960's and 1970's, and perhaps the increase will be even more marked as undergraduate honors programs expand and student motivation and aspirations continue to improve. The graduate deans, who for decades were pictured as recruiting agents beating the bushes for scarce talents, will soon be sharing the woes of present undergraduate admissions officers in trying to bolster the dikes to keep out waves of students for whom they have insufficient facilities. This pressure will have serious consequences for admissions policy and screening procedures . . .[1]

   As additional graduate programs are made available in a wider geographical area of the state, particularly through PSC's expansion in graduate offerings, it may be expected that the closer proximity of graduate offerings will encourage more students to continue into graduate work than would otherwise have done so. This increment, representing the tapping of a new supply of potential graduate students,

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[1] Cartter, op. cit., p. 228.

TABLE 38

SUMMARY OF GRADUATE DEGREES GRANTED IN THE STATE OF OREGON 1955-56 THROUGH 1964-65

1	1955-56 2	1956-57 3	1957-58 4	1958-59 5	1959-60 6	1960-61 7	1961-62 8	1962-63 9	1963-64 10	1964-65 11
Doctoral										
Academic and Professional										
State	107	65	86	75	90	99	133	138	175	225
Independent	8[a]	3[a]	3[a]	8[a]	18[a]	6[a]	15[a]	11[a]	13[a]	56[a]
Medical (State)	71	65	70	66	72	63	69	68	71	76
Dental (State)	64	74	75	68	68	76	74	65	67	73
Optometry (Independent)	38	22	45	41	43	54	33	70	40	45
Sub-Total	288	229	279	258	291	298	324	352	366	475
Master's										
State	555	533	621	686	776	806	886	1,010	1,111	1,396
Independent	93	76	90	92	105	128	148	138	197	162
Sub-Total	648	609	701	778	881	934	1,034	1,148	1,308	1,558

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[a] Includes doctoral degrees (JD) in law awarded by Willamette University as follows: 1955-56, 5; 1956-57, 2; 1957-58, 2; 1958-59, 2; 1959-60, 6; 1960-61, 2; 1961-62, 4; 1962-63, 6; 1963-64, 6; 1964-65, 46. Willamette awards the LLB and JD degrees in law. In 1964-65 requirements for the JD degree were changed, resulting in an increase in the number of JD degrees awarded.

Source: Office of Institutional Research, Oregon State System of Higher Education (system figures) and independent colleges and universities.

together with the probable acceleration in demand generally for advanced degrees precipitated by the socio-economic-technological changes that are transforming society, suggest that, as Cartter indicates, graduate enrollments will increase perhaps at an increasing rate.

Graduate Education and Migration

In a document issued in 1964, the Western Interstate Commission on Higher Education stated that:

> . . . We Westerners in the past have been "debtors" in graduate education, sending more of our talented young men and women to the great graduate schools farther east than we imported to our Western graduate schools. For example, our Western states in 1958 sent more than half again as many students to graduate schools outside the region as we welcomed into the West from other areas.[1]

The WICHE report went on then to point out that Western institutions had accelerated their expansion of graduate education opportunities - that our growth in graduate enrollments in the West was ahead of the national average and that the West's debtor status was improving.

Migration - All Institutions

Before referring to migration figures supplied in the most recent national study of this subject, we should like to observe that it is most difficult to determine with validity the resident status of many graduate students. For many of them are emancipated persons (from their parents), married, and with families. Since they may have no firm roots established anywhere, they consider themselves residents of the community or state in which they are living at the moment that a determination is made of their resident status. Arbitrary rules must therefore be established for defining "resident" and "non-resident" status.

1. A 1965 study of residence and migration of graduate students in the fall of 1963,[2] indicates that, considering both independent and public institutions of higher education, Oregon is not a debtor state. It is reported that in the fall of 1963, Oregon enrolled 1,229 out-of-state graduate students, while 1,133 Oregon residents enrolled in out-of-state institutions as graduate students, a net in-migration of 96. Washington and California both are reported to have substantially greater net in-migrations. Washington's net in-migration was 839; California's 6,542 (Table 39, p. 159).

   Of Oregon's residents who enrolled in graduate programs in the fall of 1963, 70 percent enrolled in Oregon institutions. Corresponding figures for Washington and California were 73 percent and 92 percent, respectively. The figure for the 50 states and the District of Columbia was 77 percent.

   Of the total graduate students enrolled in Oregon's institutions, independent and public, 68 percent were residents. Corresponding figures for Washington and California were 63 percent and 83 percent. In the 50 states and District of Columbia, 73 percent of the graduate students were enrolled in their home states.

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[1] Western Interstate Commission for Higher Education, Graduate Education and the West (Boulder, Col.: WICHE, 1964), p. 9.

[2] Mabel C. Rice and Paul L. Mason, Residence and Migration of College Students, Fall 1963, State and Regional Data (Washington, D. C.: National Center for Educational Statistics, U. S. Office of Education, 1965), p. 58.

TABLE 39

RESIDENCE AND MIGRATION OF GRADUATE STUDENTS
IN SELECTED STATES, FALL 1963

State	Grad.Student Enrollments in State(All Institns.)	Res. of State in Graduate Schools in U.S. Institutions	Number of Residents Enrolled in Grad. Programs in State	% Graduate Enrollments in State		State's Residents in Graduate School		Migration of Students		Net
				Res.	Nonres.	% In-State	% Out-of-State	Out of	Into	
1	2	3	4	5	6	7	8	9	10	11
Arizona	6,485	5,617	5,057	78	22	90	10	560	1,428	868
California	66,048	59,506	55,021	83	17	92	8	4,485	11,027	6,542
Colorado	5,762	4,312	3,237	56	44	75	25	1,075	2,525	1,450
Kansas	5,833	5,623	3,917	67	33	70	30	1,706	1,916	210
Oklahoma	6,963	6,179	5,035	72	28	81	19	1,144	1,928	784
Minnesota	7,352	6,171	4,222	57	43	68	32	1,949	3,130	1,181
Michigan	23,088	21,175	18,649	81	19	88	12	2,526	4,439	1,913
Nebraska	2,921	3,058	2,105	72	28	69	31	953	816	-137
Oregon	3,846	3,750	2,617	68	32	70	30	1,133	1,229	96
Utah	3,680	2,989	2,348	64	36	79	21	641	1,332	691
Washington	6,261	5,422	3,947	63	37	73	27	1,475	2,314	839
The 50 States and D. of C.	478,577	450,286	348,354	73	27	77	23	101,932	130,223	28,291

Source: Mabel C. Rice and Paul L. Mason, Residence and Migration of College Students Fall 1963 State and Regional Data (Washington, D. C.: U. S. Office of Education, 1965).

Migration - Public Institutions

2. Considering now only residents of Oregon enrolled in public institutions, the net in-migration of graduate students in Oregon is larger than when figures for public and independent institutions combined are considered.[1] The net in-migration figure in the former case is 418 students, compared with 96 in the latter case. (It was reported that, in the fall of 1963, Oregon's public institutions enrolled 1,111 out-of-state graduate students and that 693 Oregon residents registered in out-of-state public institutions.) Washington and California had, for public institutions, net in-migration of 1,368 and 4,967, respectively.

   Of Oregon's residents who elected in the fall of 1963 to enroll in public institutions as graduate students, 77 percent enrolled in Oregon public institutions. Corresponding figures for Washington and California were 76 percent and 94 percent, respectively. In the 50 states and the District of Columbia, 80 percent of the students who enrolled in public institutions elected to enroll in home-state public institutions.

   Of the 3,413 graduate students enrolled in Oregon in the fall of 1963, 67 percent were residents of Oregon. Corresponding figures for Washington and California were 56 percent and 84 percent, respectively. In the 50 states and District of Columbia, the corresponding figure is 75 percent.

Migration - Independent Colleges and Universities

3. In the independent college and university sector, Oregon is a debtor state.[2] In the fall of 1963, 440 Oregon residents registered as graduate students in out-of-state independent colleges and universities, while Oregon's independent institutions registered 118 out-of-state students, a net out-migration of 322 students. Washington was likewise a debtor state with a net out-migration of 529 students. California, on the other hand, had a net in-migration of 1,575 students in the independent colleges and universities.

   Of Oregon residents who elected to enroll in an independent college or university, 42 percent enrolled in Oregon independent colleges and universities. The corresponding figures were higher for both Washington (65 percent) and California (89 percent). For the 50 states and the District of Columbia the corresponding figure was 73 percent.

   Of the graduate students enrolled in Oregon's independent colleges and universities, 73 percent were residents of Oregon. Corresponding percentages for Washington and California were 94 and 81 percent, respectively. For the 50 states and the District of Columbia, the figure was 69 percent.

Free Movement of Graduate Students Across State and National Lines

4. The interest of Oregon (and the nation) will be best served by encouraging the free flow of able graduate students across state lines and national boundaries. Academic excellence knows no state, regional, or national boundaries. The search for knowledge is a universal pursuit among academicians the world 'round. And the pursuit of knowledge is best promoted when there is the freest possible communion and association among scholars and scholars-in-training.

   The free flow of graduate students is an aspect of this community of scholarship. We, in Oregon, benefit in numerous ways by contributing to it.

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[1] *Ibid.*, p. 59.
[2] *Ibid.*, p. 60.

a. It would be impossible to develop graduate education of quality and scope in Oregon without a strong representation of students from other states and nations. In fact, it would be impossible to develop a graduate program of excellence in any university without the cross-fertilization engendered by the presence of many students from many backgrounds, scholastic, cultural, and geographic. The American graduate school is a "community of scholars," representing many disciplines, interested in numerous fields of intellectual endeavor, representing many specialities, and molded by a common interest in learning and pushing back of the boundaries of knowledge. It would be a dull and uninspiring "community" with the undergraduate background of the graduate students confined to a limited geographic area, such as Oregon, and to a limited number of undergraduate institutions.

   In some disciplines, the very existence of graduate education would be impossible without our being able to draw upon other states for qualified graduate students.

b. The work of our universities would suffer materially if, in the selection of graduate assistants, the most able graduate students were not selected. More than half of the graduate students at the two state universities hold some type of assistantship, fellowship, traineeship, or other type of remunerative position. It is these graduate assistants who assist with the teaching of lower-division courses, or who are, in many instances, the hands and the minds through which the faculty works in carrying out many of the institution's research functions. It is obvious that the interests of the institutions and of the state are best served when the institutions select for these graduate assistantships the ablest students that can be persuaded to enroll. Moreover, the caliber of graduate work that can be maintained in a department is, in important measure, influenced by the caliber of its graduate students. The choice is, of course, broadened, the further afield the institution can search and the greater the diversity of institutions from among whose students it may choose.

c. Oregon residents interested in graduate education would be less likely to have open to them the option of attending institutions out-of-state if there were not a free movement of scholars-in-training. In many institutions students are discouraged from continuing their graduate work in the institution from which they received their baccalaureate degree. In others, they are encouraged to look elsewhere after completing the master's degree. If the student is counseled so as to broaden his vision of the possible, in choice of graduate study opportunities, his interests are more likely to be met to an advantage than if his view is circumscribed by a state boundary.

d. Oregon institutions are encouraged by a free flow of graduate students to develop specialized programs of renown at the graduate level. Most universities have a number of special graduate fields in which they are highly competent and which may be the most highly developed in the region or nation. Some of these fields of great excellence are a result of the regional location of the institution, where certain resources or natural advantages provide the impetus for this development. This is true in some instances in Oregon. The free flow of scholars-in-training encourages the development of these specialized resources and their use to the best advantage, since institutions do not feel called upon to meet every graduate education interest expressed by students of a state. Thus, institutions are encouraged to limit the range of graduate programs they offer, to specialize and develop a level of excellence in those programs they do offer.

5. With the prospect of an increasing need in Oregon for competent graduate assistants of various kinds, Oregon's interests would be best served by retaining its present

policy of not charging a nonresident tuition fee for graduate students. The impetus to charge a graduate nonresident fee is an economic one; the purpose to be served in not charging one is an educational one. In the balance, it is our considered view that the overall interests of the state will be better served if the state continues to serve the educational purpose promoted by the present tuition policies.

The validity of the argument for continuation of the present policy in Oregon as a means to an educational purpose rests principally upon whether, in fact, Oregon is able to attract more higher quality graduate students from out of state than it could were there a graduate nonresident fee to be paid. No objective evidence is available on this score but we strongly believe it to be the case.

We do have some evidence, however, which suggests that there is much less to be gained, economically speaking, by charging a graduate nonresident fee than many have surmised. In the first instance, the nonresident graduate students are a smaller percentage of the total than many have thought. In the fall term, 1965-66, they constituted a total of 1,869, 36 percent of the total graduate students in the three largest institutions in the State System of Higher Education (University of Oregon, Oregon State University, and Portland State College) (Table 40).

TABLE 40

GRADUATE ENROLLMENTS FALL TERM 1965-66
UO, OSU, PSC

Institution	Graduate Students Resident	 NonResident	 Total
1	2	3	4
University of Oregon	1,661	1,158	2,819
Oregon State University	933	627	1,560
Portland State College	707	84*	791
Total	3,301	1,869	5,170

*Spring term figure.
Source: Graduate deans, Oregon State University, University of Oregon, and Portland State College.

Of these 1,869 nonresident graduate students, a substantial number would not be required to pay a nonresident fee, were one assessed, since they hold teaching or research assistantships and are, therefore, as a part of their emoluments, required to pay only the reduced fee of $32 per term. Another sizeable group of graduate students, attending the institutions on fellowships or traineeships provided by the federal government, would not pay the nonresident tuition fee. For these students the fund-granting agency pays the institution a flat $2,500 cost-of-education allowance in lieu of tuition and other forms of support. A change in the policy with regard to nonresident tuition would not increase this amount, although it would perhaps distribute it somewhat differently. Finally, a third class of graduate students not affected by a change in tuition policy consists of those registered for seven hours of credit or less. Table 41 shows how many nonresident students in the three institutions are estimated to be in each of these three categories. These figures suggest that the majority of the

1,869 nonresident graduate students in the three institutions would fall into one or another of these special categories. (The sum of the three totals would not be meaningful, since there is an unknown amount of overlapping. Some of the assistants and fellows may also be included in the part-time category.)

TABLE 41

NONRESIDENT GRADUATE STUDENTS IN SPECIAL CATEGORIES
UO, OSU, PSC - FALL 1965

Institution 1	Assistants 2	Fellows 3	Part-Time 4
University of Oregon	265*	82*	154*
Oregon State University	249	193	130
Portland State College	---	15	60
Total	514	290	344

*Estimates; exact figures not available.
Source: Graduate deans, Oregon State University, University of Oregon, and Portland State College.

Moreover, a large proportion of the graduate students are married and thus, presumably, independent of parents or guardians. It would be possible for such students to qualify for resident status by moving to Oregon six months before entering school. It seems likely that at least some of them would decide to do this if the fee policy made it advantageous for them to do so. Married nonresident graduate students at the University of Oregon fall term 1965 totaled 435 out of 1,158, or about 38 percent. At Portland State College, they total 67 out of 84, or about 80 percent. No figures on this point are available from Oregon State University.

In short, with so little to be gained in additional income by the imposition of a nonresident fee, and with what we consider to be the educational advantages the present tuition fee policy gives Oregon institutions, we recommend a continuation of the existing policy.

6. If Oregon institutions would be competitive for able graduate students, they must expect to be competitive in the program of student assistance they provide. Students are selective in choice of institution in an important measure on the basis of the financial advantages offered. A recent study at Michigan State University asserts that "whereas most universities seek graduate students with the highest potential for academic performance, the average graduate student chooses the university offering the highest stipend."[1] The Michigan State researchers concluded from their data that: "Only when the net income derived from a graduate assistantship or fellowship is no longer a variable, will the educational advantages offered become a primary factor in the student's selection of a graduate school."[2]

The chief sources of graduate student income are assistantships, fellowships, and scholarships. With the growth of these forms of graduate student aid, an increasingly larger proportion of the graduate school student body consists of individuals having such grants. Cartter points out that:

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[1] Allan Tucker and Lee Sloan, "Graduate-School Talent Sold to the Highest Bidder," Journal of Higher Education, Vol. XXXV, No. 1 (January, 1964), p. 12.

[2] *Ibid*., p. 18.

> The fellowship selection process is becoming more burdensome to departments, and most institutions will no longer give "admission without award" to more than a small fraction of the moderately well-qualified applicants because of faculty and space limitations. As noted by one director of graduate studies in a department without adequate fellowship funds: "We are in the anomalous position of saying that if we can't pay them to come, we won't admit them."[1]

One might assume that institutions of renown would not feel impelled to develop or to continue extensive programs of student assistance, since presumably these institutions could attract, without student financial aid, adequate numbers of able graduate students. Yet, Beach reports that:

> The most prestigious universities could probably withdraw from this war of stipends and still attract full quotas of top-level performers. But there is no sign of their willingness to do this. Harvard, for example, grants well over $2.5 million annually in scholarships and teaching fellowships. The dizzy upward spiral is likely to continue for several years to come.[2]

The importance of able graduate students to the strengthening of graduate programs has earlier been alluded to. Bent suggests that this relationship is not lost upon graduate schools across the country.

> A more important concern of institutions is the influence of fellowships in strengthening a graduate program. A few fellows may contribute far more than might be expected from the numbers involved, for the stimulus to the whole research program provided by two or three active young investigators can be very great.
>
> . . . .
>
> . . . It is not surprising, therefore, that many faculty members feel that a strong fellowship program is the most important single factor contributing to the strength of a graduate program. Such support assures that there will be not only students, but students of high quality who will carry on research and stimulate discussion in graduate courses. A department without fellowships is, indeed, in a precarious position; in some areas it cannot compete in graduate education.[3]

These are the same concerns that trouble Oregon's institutions interested in developing graduate programs of high quality.

Graduate Education and Research in Oregon

We have earlier in this report (pp. 141-47) discussed the indispensability of research to high-quality graduate education, and the dominant role of the federal government in recent years in the strengthening of the research potential of the institutions of higher education.

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[1] Cartter, op. cit., p. 230.

[2] Leonard B. Beach, "The Graduate Student," Graduate Education Today, ed. Everett Walters, (Washington, D. C.: American Council on Education, 1965), p. 123.

[3] Henry E. Bent, "Fellowships, Assistantships, and Traineeships," ibid., pp. 136-37.

We see in the statistics of the state system for the past decade a reflection of increasing budgets for research, as the graduate programs have grown, and the dominant role of the federal government as a source of research funds.

1. The funds expended for research in state system institutions have increased markedly in the past decade (1955-56 to 1964-65).

   During the 1955-56 to 1964-65 decade, the principal research institutions of the state system, measured by research funds expended, were the University of Oregon Medical School, University of Oregon, and Oregon State University.

   Table 42, p. 166, lists the funds expended for research in the six institutions of the state system which had research budgets (UO, UO Medical School, UO Dental School, OSU and OSU experiment stations, PSC, and OCE), for the years from 1955-56 to 1964-65. It will be observed that the sum expended has increased dramatically from $3,632,696 in 1955-56 to $18,276,731 in 1964-65.

2. The state funds separately budgeted and expended for research in the state system institutions have declined as a percent of the total funds expended during the period 1955-56 to 1964-65. The federal government has been the dominant source of funds throughout this period.

   Table 43, p. 167, which shows the source of research funds expended in the state system institutions, reveals that the federal government has been the principal source of the research funds expended during all of the period 1955-56 to 1964-65. In 1955-56, the federal funds were 34 percent of the total. By 1964-65, federal funds were 69 percent of the total.

   The most striking feature of Table 43 is the picture it reveals of the role of the state in supporting the research budgets of the state system institutions. In 1955-56, institutional funds separately budgeted and expended for research (exclusive of sales and service) amounted to $1,632,493 (45 percent) of a total of $3,632,696 expended for research. By 1964-65 the institutional funds expended increased to $3,471,904 (an increase of 113 percent), but despite this increase had dropped to 19 percent of the total expended for research ($18,276,731).

   It is obvious that had it not been for the federal government's role in supporting research, and the aid solicited by the institutions from private industry, foundations, professional associations, and like groups, the state system institutions would have suffered severely from the lack of separately budgeted research funds. Without such funds, they could not have developed the programs of graduate education from which the state now benefits so greatly.

3. The committee wishes to be recorded here as emphasizing, with all of the vigor at its command, the necessity for adequate support of research, if the state means to develop graduate education in Oregon to the optimum advantage of the state.

   a. Research is essential to high-quality graduate education. Research and instruction are inseparable in graduate education. The worth of graduate education in institutions of higher education is judged by two outputs: (1) the end-products of research and scholarly activity of the faculty and students, namely monographs, articles, books, patents and the like, and (2) the number, quality, and promise of the human products turned out bearing the institution's graduate and advanced graduate degrees.

      One cannot speak rationally of being for high-quality graduate education in Oregon but against adequate support for research. To suppose that

TABLE 42

TOTAL FUNDS EXPENDED[1] FOR RESEARCH IN SIX OF MAJOR STATE-SUPPORTED INSTITUTIONS 1955-56 THROUGH 1964-65

Institutions 1	1955-56 2	1956-57 3	1957-58 4	1958-59 5	1959-60 6
U of O	$ 221,284	$ 352,740	$ 512,204	$ 782,378	$1,159,591
UOMS	587,614	818,642	1,146,476	1,493,832	1,904,527
UODS	30,782	45,476	65,061	99,792	140,892
OSU	459,790	593,288	688,866	953,645	1,239,405
Exper. Station	2,328,069	2,540,563	3,081,427	3,156,628	3,389,384
PSC	5,157	29,466	30,016	14,185	25,982
OCE	-	495	3,598	5,593	18,718
Totals	$3,632,696	$4,380,670	$5,527,648	$6,506,053	$7,878,499

(Institutions) (1)	1960-61 7	1961-62 8	1962-63 9	1963-64 10	1964-65 11
U of O	$1,420,506	$1,947,863	$2,432,395	$3,249,182	$3,516,732
UOMS	2,100,643	3,064,066	3,979,360	5,047,674	4,487,138
UODS	190,771	303,723	328,811	408,734	271,415
OSU	1,863,270	2,092,991	2,740,112	4,313,371	4,579,969
Exper. Station	3,601,274	4,534,133	4,906,696	4,785,982	5,180,385
PSC	124,941	94,773	219,995	153,497	147,344
OCE	47,730	53,734	53,140	63,164	93,748
Totals	$9,349,135	$12,091,283	$14,660,509	$18,021,604	$18,276,731

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[1] Expenditures shown above include amounts expended for: (1) instruction-related research supported from state funds, and (2) research supported by non-state funds (gift, grant, or contract). Excluded from the above figures are: (1) the funds represented by the unbudgeted or donated time of instructional staff, and (2) instructional training grants from such agencies as NDEA and PHS, which provide for training programs for public school teachers, college instructors, psychologists, etc.

Source: Office of Institutional Research, Oregon State System of Higher Education.

TABLE 43

TRENDS IN TOTAL EXPENDITURES FOR RESEARCH BY SOURCE IN SIX OF MAJOR STATE-SUPPORTED INSTITUTIONS 1955-56 THROUGH 1964-65

Source	1955-56		1956-57		1957-58		1958-59		1959-60	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1	2	3	4	5	6	7	8	9	10	11
Institutional Funds[1]	$1,632,493	45%	$1,570,052	36%	$2,174,895	39%	$2,104,524	32%	$2,562,792	33%
Sales & Service Fees	345,200	10	545,898	12	349,622	7	421,713	7	391,070	5
Federal Government[2]	1,239,958	34	1,782,689	41	2,281,164	41	3,076,590	47	4,014,660	51
Private Industry, Foundations, Prof. Assoc., etc.	415,045	11	482,031	11	721,967	13	903,226	14	909,977	11
Totals	$3,632,696	100%	$4,380,670	100%	$5,527,648	100%	$6,506,053	100%	$7,878,499	100%

(Source)	1960-61		1961-62		1962-63		1963-64		1964-65	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
(1)	12	13	14	15	16	17	18	19	20	21
Institutional Funds[1]	$2,758,758	30%	$3,428,500	28%	$3,177,900	22%	$3,189,907	18%	$3,471,904	19%
Sales & Service Fees	396,967	4	706,402	6	1,192,611	8	849,459	5	1,099,089	6
Federal Government[2]	5,185,869	55	6,897,300	57	8,786,739	60	12,664,709	70	12,623,927	69
Private Industry, Foundations, Prof. Assoc., etc.	1,007,541	11	1,059,081	9	1,503,259	10	1,317,529	7	1,081,811	6
Totals	$9,349,135	100%	$12,091,283	100%	$14,660,509	100%	$18,021,604	100%	$18,276,731	100%

[1] Institutional funds include departmental and other instruction-related research supported by state funds, but excludes unbudgeted or donated time of instructional staff members.

[2] Federal government figures exclude training grants from such agencies as NDEA and PHS, which are not directly related to research.

Source: Office of Institutional Research, Oregon State System of Higher Education.

high quality graduate education can exist in the absence of adequate support for research is to suppose what never has been, and what, we venture to say, never will be.

b. Research is a high-cost, high-yield investment.

High-quality graduate education, with its heavy emphasis on research is necessarily high-cost education. But it is a high-yield investment.

As research is essential to high-quality instructional programs, so it is indispensable to the continuing economic and social well-being of our state and nation. Who can place an ultimate value upon the polio vaccines? Or upon the contributions of our biochemistry laboratories to the conquering of cancer? Or research's contributions to economic man, or his social well-being?

If Oregon would be a center of educational strength and technological power - one of those innovative centers of research and education to which Berkner refers (p. 149) - from which will flow the seminal ideas of the future, Oregon must be prepared to encourage its institutions of higher learning to work at the boundaries of knowledge.

One cannot speak in any meaningful sense of being for high quality of research in our graduate institutions and at the same time of being against spending what it costs to compete in the academic market for the productive teacher-scholars who are everywhere in demand, or of being against providing such teacher-scholars, once employed, with the kinds of resources which make their efforts productive.

c. Basic research is a principal focus of graduate education; applied research sometimes is. Both must be supported adequately.

As we noted earlier (p. 145), prior to World War II, nonprofit organizations and universities had a virtual monopoly on basic research - the search for knowledge for the sake of knowledge, with no regard to any possible practical value of the knowledge sought. They still have a dominant role in basic research.

To the layman, much basic research seems abstruse, often unrelated to the real world in which he moves. Judging from the titles of the research projects, some of the research seems trivial. Some is. Under the circumstances, there is sometimes a temptation to parsimony in the support of basic research. This is a temptation to be resisted. For parsimony as a means of cutting off the trivial research project is little different from burning the house down to roast a pig. The incidence of specious, trivial research projects is in large measure a function of the quality of the staff. The continuing effort of the institutions is to staff themselves in a manner as to reduce to a minimum such projects.

It must everlastingly be remembered that, particularly in the science fields, what to the layman may seem an utterly meaningless, even trivial, research project, may, to the scientist, provide the missing portion of some abstruse jig-saw puzzle. A jig-saw puzzle whose existence, dimensions, and form are utterly unsuspected by even the sophisticated researcher until some small fragment of information, turned up in a researcher's quest, proves the catalyst which coalesces in some scholar's mind numerous other fragments of information from earlier researches, forming, thus, a whole which pushes back the frontiers of knowledge far beyond anyone's capacity to anticipate in advance of the event. Moreover, while not the sole, nor even the principal, justification for the support of basic research, it should nonetheless be observed that the encouragement of scholars to follow where their curiosity and insights lead them in their search for truth is also, in the long run, the most productive of "practical" results. It was in this vein that Irving Langmuir, Nobel prize winner, observed:

> Only a small part of scientific progress has resulted from a planned search for specific objectives. A much more important part has been made possible by the freedom of the scientist to follow his own curiosity in search for truth.

A particularly apt statement of this view is expressed by Professor Charles Frankel:

> . . . One of the most popular, and one of the most ruinous assumptions about science is that it normally achieves its practical results by aiming directly at them. Much more often than not, significant advances in science have been made precisely when men have had the sense of disengagement from urgent pressures that has allowed them to ruminate, to roam around, and to work on problems in which no practical man was interested.
>
> The view that reduces science simply to an instrument of national power obscures its significance as a discipline of the human mind and as an agency for advancing the well-being of all humanity. And there is likely to be a pragmatic penalty for forgetting the moral meaning of science; even its power to attain practical results will be materially reduced.[1]

There exists in the academic world a deep sense of malaise (relieved somewhat by the federal government's increasing support of research) at what is thought to be inadequate support of basic research, not alone in the sciences, but in the social sciences and humanities as well. This feeling stems, in part, from the temptation in some quarters to assume that if those who are capable of advancing the frontiers of knowledge are supported in their teaching and training of others, sufficient will have been accomplished. What must be realized is that it is not enough in graduate education to transmit and apply one's present store of knowledge. At the graduate level, if research suffers, so, too, inevitably, must teaching and training.

The extent to which institutions of higher education should be involved in applied research is sometimes debated. We think it inevitable and desirable that graduate institutions, particularly state-supported graduate institutions, be involved in both basic and applied research. There are insidious dangers in attempting to differentiate too sharply between "basic" and "applied" research. There may be in applied research projects numerous benefits: opportunity to increase or improve facilities and equipment, greater training opportunities for graduate students, opportunity for the institution to develop and maintain the close and continuing contact with the life of the state and community that leads to better support for the institution, opportunity for faculty to keep in touch with the real world. In agriculture, medical, and health fields, social and public service, and numerous other fields, the contributions to applied research of Oregon's institutions of higher education have been very great, and should continue to be.

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[1] Alan T. Waterman, "Closing Address," The Federal Government and Higher Education, Report of the Pacific Northwest Assembly, (Eugene, Oregon: The American Assembly, University of Oregon, 1960), p. 22.

d. State funds in support of research are necessary: (a) to insure a balanced research program within the institutions and a continuing source of support, and (b) to provide the seed money with which to undertake research that will attract outside support from private sources (i.e., industry, private foundations, individuals) and from agencies of the federal government.

Providing balance in the research program. The research interests of federal agencies and private funding agencies are often circumscribed. The research funds of which they dispose are often likewise limited in the subject matter area in which they may be applied, the purpose to which they may be put, or in some other way. Where these special interests of the outside funding agencies coincide with the institution's research and graduate study interests and goals, a useful and mutually satisfying union can be achieved. But since the university's interests in graduate education are usually broader than the research interests of any one or combination of outside funding agencies, there is a need for adequate state support of research to permit the institution to round out its research efforts and provide a balanced program of research in the several fields in which its graduate interests lie. It is this basic state support for graduate education which is so very critical to the maintenance of ongoing, balanced programs of research in our institutions.

In another sense, also, these state funds provide for a balanced research program. They can provide research opportunities for the able younger staff members who are as yet insufficiently known to attract outside research support. These neophyte teacher-scholars are often energetic, highly motivated young men. They realize that success in the academic world, with the resulting security and emoluments of status and rank, is dependent upon their demonstrated success as teacher-scholars. Given support for their research efforts sufficient to launch them, they may catch the attention of outside funding agencies and will, in their turn, bring into the institution outside resources which will continue the spiraling process, earlier described, by which institutions grow and develop.

This seems an appropriate place to refer to "departmental" research. This is a term frequently applied to research and creative activity which is carried on within the departments of the college or university, supported by the institution, by the department, and even, occasionally, by the researcher himself. Such research includes the research activity of many graduate students who work under departmental sponsorship. It often relies upon borrowed equipment and research materials. In spite of the often meager support for departmental research projects, a surprisingly large amount of new information is added to the sum of knowledge through this avenue. An explanation of the sometimes large return on a small investment is the effort called forth by the researcher's zeal as he pursues where his curiosity leads him. Perhaps to a greater degree than any other kind of research, departmental research is an expression of that academic freedom without which no fundamental advances in knowledge are possible.

Providing the "critical mass." We are familiar with the idiom of the physical scientist who speaks of the "critical mass" as being essential to the setting in motion of the chain reaction which unleashes the forces bound up in the atom. Such a concept may also appropriately be applied to the field of research in higher education. It does require a "critical mass" in terms of financial and other support to set in motion the chain reaction which leads to the institution's developing and augmenting its research potential. Such a "critical mass" must usually be provided in the institutional budget.

When in motion, the research activity of the institution may attract the support of private foundations, federal agencies and similar funding agencies. With the receipt of outside support for research and graduate training, the institution's capacity for research can be further developed - often augmented - by addition of other competent teacher-scholars who, in their turn, are the means of attracting additional outside support. As the institution's capacities are increased, so is its capacity to attract additional productive teacher-scholars to its staff, and the spiraling process continues.

We see this process occurring in Oregon colleges and universities. One such illustration will perhaps suffice, though it could be multiplied many times. For a number of years, certain faculty members at Oregon State University carried on research in marine science under departmental auspices, and with little or no outside support. In 1955, OSU obtained a $10,000 federal grant on the strength of its demonstrated interest over the years in marine science. Within a decade following, federal support of the Oceanographic and Marine Science Institute at OSU was in excess of $1.5 million; the federal government had provided OSU with a million dollar oceanographic research vessel and two new facilities - a new oceanography building on the Corvallis campus and a marine science laboratory in Newport.

e. Donors - governmental, corporate, and individual - must be encouraged to continue and to extend their support of the research and graduate training activities of the independent and public colleges and universities. The dominant role of federal and private funding agencies in the support of graduate research and training was earlier noted (pp. 165-167). Institutional aggressiveness in the solicitation of this type of support must continue in both the independent and public colleges and universities which aspire to superior research and graduate education programs. For graduate education and research are destined to continue to have a dominant influence in American higher education, and though the state increases its support of these functions, which it must be encouraged to do, there will yet be need for substantial benefactions from private corporations and individuals as well as from the federal agencies.

It may seem strange that the public colleges and universities should solicit funds from private corporations and individuals, the traditional source to which the independent colleges and universities have looked for their support. But in recent years, the sharp lines that at one time differentiated the sources of support for the independent and the public colleges and universities have been increasingly softened, in part by the federal funds (in some states, by state funds as well) from which the independent colleges have increasingly benefited in recognition of the important public function in which they are engaged. In part, too, by the realization, in many public institutions, of a need to augment their tax resources with private funds in an era when rising costs and a highly competitive academic market put an economic squeeze upon the institution.

What has been said above refers to gifts and grants. We believe also that research contracts - from the federal government, state government, foundations, and industrial and business organizations - must be encouraged where such contracts make important contributions to the educational programs of the institutions or to their general well-being. What should be sought in the institutions aspiring to effective graduate education is a strong research program carefully integrated with teaching and training at the graduate level.

The Temptation to Proliferation in Graduate Education

Before coming to a discussion of the need for the expansion of graduate education in Oregon, we should like to comment briefly on the dangers of the temptation to proliferate graduate programs, to expand graduate education too rapidly, outrunning our capacity to support existing and new programs adequately.

There is a natural disposition for institutions - all institutions - to extend their capabilities for service. Numerous forces are at play. There are the deep-seated loyalties of the alumni; the concern of the citizenry that "their" institution improve its standing, with all of the implications this has for growth and added financial support for the institutions, and the residual benefits to the business and industrial elements; the faculty's natural interest in the aggrandizement of the institution, with all of the derivative benefits associated therewith; the administration's concern that the institution grow in service with the times; and the interest of students that the institution make available to them a wider range of educational opportunities.

Graduate programs have a special lure. They seem to promise derivative benefits to the undergraduate programs, derivative reputation to the faculty, the opportunity for the institution to compete for the increasingly large sums being poured into graduate education by the federal government and, in the case of public institutions, an increased share of legislative appropriations.

The derivative benefits to the undergraduate program are seen as being the taste for excellence that permeates even the undergraduate programs at an institution with a strong graduate program; contact for undergraduate students, at the upper-division level, at least, with scholars who are advancing knowledge; the improved resources available to the undergraduate student, especially library and laboratory resources; the ability to attract to the undergraduate program higher quality junior staff members; and the ability to hold them against the blandishments of marauding institutions which themselves have graduate programs as an attraction in their recruitment and retention of junior staff members.

The derivative reputation which graduate programs are capable of bestowing upon faculty members is, in actuality, greatly dependent upon the reputation of the graduate program. But in the rosy glow which suffuses graduate programs not yet in being, hope may be often confused with reality, as the faculty pushes the administration to more aggressive expansionist policies, sometimes against the administration's better judgment.

Besides these natural instincts for growth and the desire for increased prestige, there is the lure of federal funds, which is an almost overwhelming one for institutions which see these funds as a means of getting into the graduate education field. For it is known that most federal funds go to graduate education.

And, finally, there is the anticipation of business and industrial interests that graduate programs established in their vicinity can only lead to an improved business climate and a greater prosperity for the region of the state in which the new programs are established.

We understand these motivations. We believe that these anticipations are susceptible of attainment under appropriate conditions. But we would underscore our belief that the creation of graduate programs which have little prospect of attaining a high level of excellence in a reasonable time may be a disservice to the institution that launches them, to the students who enroll in them, and to the educational enterprise of the state, generally. We are not opposed to the creation of new graduate programs in Oregon. We do in fact believe that the creation of additional graduate programs in the state is inevitable and desirable. But we do enjoin circumspection in the timing and planning of these new programs.

1. The maintenance of high-quality graduate education in Oregon is possible only under a system of curricular specialization among institutions, public and independent alike. Oregon's economic resources are not unlimited. If Oregon would make available to qualified students access to high-quality graduate programs, it must avoid unwise, unnecessary, and costly duplication of programs among the institutions within the state. Within the State System of Higher Education, the state must effectively concentrate its limited resources in the development of at least one truly high-quality program in a given professional area or graduate field, in lieu of several anemic, deficient programs.

   a. In high-cost professional, semi-professional, or graduate areas requiring costly equipment, high-cost faculty, and/or unique building facilities, a single institution should be given responsiblity for the development of high-quality graduate work within the state's means. A second institution should be authorized to offer a program in one of these fields only when a bona fide state need for a second program can be demonstrated and only when funds are available to support a second high-quality program without denying the existing program the resources it needs to maintain a high standard of excellence.

      The State Board of Higher Education is in a position to administer the curricular programs of its institutions so as to promote this curricular specialization. The independent colleges and universities of the state have no such over-arching agency of control. However, wisdom would dictate that the independent institutions have in mind this principle of curricular specialization as they consider the subject matter areas in which they may most advantageously move into graduate work.

   b. In those subject areas in which multiple graduate programs in the state can be justified educationally and economically, it is urged that institutions plan cooperatively so that, insofar as feasible, the institutions develop complementary emphases within such programs rather than mere replications one of another. Such institutional specialization will offer Oregon's youth a richer educational fare at the graduate level.

2. New professional or graduate programs should be launched only if there is clearly evident at the time, or in the immediate future, sufficient financial support for the program to develop it to a respectable standing, to enable it to become accredited, where appropriate, and, once accredited, to maintain its accreditation. We are not unmindful of the fact that programs in education often start small, then grow to maturity and, in the process, develop stature. What we say above is not said in ignorance of this fact. What we would hope to minimize by our admonition is the number of instances in which institutions launch programs, which, if they are to be first-rate, must be high-cost, without reckoning the cost of attaining excellence in the field, and thus often end by continuing a mediocre, inadequately supported program which ought never have been begun in the first instance. We believe that there will be fewer such instances if institutions will make cost estimates for contemplated new programs in terms of an on-going, high-level program - not a minimal, beginning one.

3. Since institutional specialization lies at the heart of sound graduate education in Oregon, institutions considering the addition of a graduate program should be expected to evaluate realistically the need for such a program. Among the factors which should be considered in the evaluation are the following:

   a. Relationship of the proposed program to the objectives of the institution. In the case of the state system institutions, these objectives are spelled out in the guidelines approved by the State Board of Higher Education in July 1964.

b. Relationship of the proposed program to existing programs in other institutions in the state. Is the proposed program intended to supplement, complement, or duplicate existing programs in this subject area? In the light of the existing programs in the state, why is the proposed new program needed? Is it designed to serve primarily a national need? A state need? A regional need?

No clamor for the placing of graduate programs in close proximity to students throughout the state should be permitted to encourage the development of multiple mediocre programs in any single academic or professional field of study. Graduate students, particularly advanced graduate students, are mobile. Their interests and those of the state will be best served when no more graduate programs are established than can be maintained at a high level of quality.

c. Growth prospects of the proposed program. How many students will the program serve initially? In the immediate future? In a long-ranging future?

d. If pertinent to the subject area in question, the employment opportunities for persons graduating from the proposed program.

e. Institutional capabilities for offering a high quality program. Does the institution have, or can it acquire in a reasonable time, the library, laboratory, or other necessary physical facilities and equipment required for a high-quality program? Enough well-qualified staff members? Does it have strength in related disciplines where such strength is essential to the development of a high-quality program?

4. The function of planning for graduate education in Oregon should be not alone that of discouraging development of unneeded or mediocre programs, but equally to encourage additional or new programs in academic or professional fields in which the need for trained persons is evident and the financial and other resources are or can be made available for mounting high-quality programs in such fields.

Expansion of Graduate Study and Research Resources in the Metropolitan Portland Area

Since 1962, the subject of the expansion of graduate study and research resources in the Portland metropolitan area has been much in the news. There is, we believe, a general understanding of the need for eliminating the deficit in these resources which presently exists in the Portland area. It is to this subject we now turn.

What is There to Build on in the Portland Area in Meeting Graduate Study and Research Needs of the Area?

There exist in Portland substantial graduate offerings in a limited number of fields, and a developing base upon which to build more extensive graduate study and research opportunities. We should like briefly to enumerate, without being exhaustive in treatment, the general nature of the graduate resources presently available in Portland. These resources can be subsumed under the following headings: (1) the resources of the State System of Higher Education (PSC, UO Medical School and its affiliate, The Oregon Regional Primate Research Center, UO Dental School, UO Nursing School, the extension offerings of the campus institutions made available through the Portland Continuation Center), (2) the independent colleges and universities, (3) the autonomous Oregon Research and Graduate Study Center, (4) the resources of business and industry, and government.

Portland State College

Portland State College has a rapidly developing graduate program at the master's degree level, involving both professional degrees and academic degrees.

Professional master's degree programs. Portland State College offers professional master's degree programs for those qualifying for service in: (1) elementary and secondary school teaching and (2) social work.

The degree programs for teachers are: master of arts in teaching (MAT), master of science in teaching (MST), and the master of education (MEd). The degree program for social workers is the master of social work (MSW).

The master's degree programs for teachers give Portland State the capability of designing programs specific to the needs of teachers with widely varying interests. For the secondary school teacher whose need may be for depth at the graduate level in an academic subject matter area (e.g., English, mathematics, history, political science, etc.), the MAT and MST degrees are available. They permit a student to include, in his 45 credit program, 36 graduate credit hours in a subject matter field, such as English or history, and 9 credit hours in professional education (e.g., guidance and counseling, educational psychology, curriculum of the public schools).

The master of education degree program permits individuals interested in qualifying for positions in teaching either in regular classrooms or in the teaching of the handicapped (e.g., visually handicapped, mentally retarded), or for providing help to children needing other kinds of special attention (children with speech and hearing troubles, for example), to concentrate their graduate work in the professional fields related to their professional objectives.

These master's programs are relatively new at Portland State College, and hence, are not yet accredited.

The master of social work degree program is fully accredited.

In a third professional field, business administration, Portland State College has been authorized by the State Board of Higher Education to launch a master's degree program (MBA) in 1967-68, provided the legislative assembly appropriates the recommended funds for the support of the program.

Academic master's degree programs. Portland State College is presently authorized to offer master's degree programs (master of arts and master of science) in five academic subject matter fields (applied science, chemistry, mathematics, physics, and German). The German degree is restricted to a combined Sommerschule-overseas program.

In addition, the State Board of Higher Education has authorized PSC to phase in additional master's degree programs according to the following schedule, subject to appropriate funding of the programs by the 1967 legislative assembly.

Subject Matter Area	Preparatory Year	Year Program to Be Operational
Economics	1966-67	1967-68
English	1966-67	1967-68
History	1966-67	1967-68
Biology	1967-68	1968-69
Psychology	1967-68	1968-69
Sociology	1967-68	1968-69
Speech	1967-68	1968-69

Subject Matter Area	Preparatory Year	Year Program to Be Operational
Anthropology	1968-69	
Political Science	1968-69	

If the 1967 Legislative Assembly appropriates the funds being requested by the State Board of Higher Education for phasing in the master's programs according to the schedule above, PSC will have in operation during the second year (1968-69) of the approaching biennium, the following master's degree programs.

Master of Social Work
Master of Education
Master of Arts and Master of Science in Teaching
Master of Business Administration

Master of Arts in the following areas:

English
History
Sociology
German (Limited to a program involving a combined PSC German Sommerschule-year abroad at a German university)

Master of Arts and Master of Science in the following fields:

Applied Science
Chemistry
Mathematics
Physics
Biology
Economics
Psychology
Speech

PSC will also have taken organized, well-financed preparatory steps to shore up two other subject matter areas in preparation for launching master's programs in these fields:

Anthropology (MA degree)
Political Science (MA/MS degree)

University of Oregon Medical School and Affiliated Oregon Regional Primate Reseach Center

Through its basic science departments the Medical School offers programs leading to the master of science and PhD degrees in the following seven areas: anatomy, bacteriology, biochemistry, pathology, pharmacology, physiology, and medical psychology. A master of science degree is offered in medical technology.

It also offers a special five-year program of study for outstanding students leading to both the medical degree (MD) and the master of science degree in the foregoing fields.

In addition, the Medical School cooperates with other state system institutions and services offering some special programs at the graduate level (e.g., counseling and guidance for teachers, programs for vocational rehabilitation counselors, etc.).

The Oregon Regional Primate Research Center, for which the Medical School is the host institution, was established in May 1960 by grants from the National Heart Institute of the National Institutes of Health of the Public Health Service, United States Department of Health, Education, and Welfare. The program of research at the center is oriented to a well established colony of standardized laboratory animals, which permits investigation of primates throughout the life cycle through the correlated efforts of many scientific disciplines.

The purpose of the Regional Primate Research Center is "to provide an optimum environment wherein scientists and students of science may advance all possible areas of knowledge relating to the biologic characteristics of the mulatta macaque monkey, and appropriate related species, to the end that man may better control his own destiny. Information gained will directly contribute to the understanding and control of human disease."

Through affiliations with the Medical School and other academic institutions, the center offers research work in cooperation with appropriate graduate study programs.

University of Oregon Dental School

Graduate work leading to the master of science degree is offered at the Dental School for students planning careers in dental education and research. Graduate major programs have been arranged in the fields of anatomy, bacteriology, biochemistry, operative dentistry, dental materials, oral pathology, orthodontics, pharmacology, pedodontics, and physiology.

University of Oregon School of Nursing

The University of Oregon School of Nursing, located on the campus of the Medical School, offers a program leading to the degree of master of science in nursing education.

Extension Offerings of Campus Institutions Made Available Through DCE in the Portland Area

Through the Division of Continuing Education, an administrative arm of the State System of Higher Education, there have been developed in Portland rather substantial graduate course offerings from Oregon State University, the University of Oregon, and Oregon College of Education.

Responsive to the demands in the Portland area for cohesive degree-oriented graduate programs, the foregoing three institutions have developed some master's programs all or part of whose requirements can be met through work taken in Portland. The number of such degrees being offered on this basis is fewer now than it was two or three years ago. For, as Portland State College has increased its offerings at the graduate level, the three other institutions, cited above, have withdrawn some degree programs from the Portland area, and have increased the residence requirements for other degrees which they still offer, in part, through Portland study.

The present (1965-66) master's degree programs extended to Portland from the campus institutions are indicated below. Unless otherwise specified, all of the required course requirements may be met in Portland.

1. Master of Science in Engineering - (OSU)

2. Master of Engineering - (OSU)

3. Master of Bioengineering - (OSU)

4. Master of Science in Education - (OCE) (12 credit hours must be earned in Monmouth)

5. Master of Science in Health, Physical Education, and Recreation - (U of O)
   (12 credit hours must be earned in Eugene)

6. Master of Education - (OSU) (24 credit hours must be earned in Corvallis)

Two other master's degree programs formerly offered in Portland by the University of Oregon (master of education and master of business administration) under terms which permitted the student to meet all of the course requirements in Portland have either been withdrawn from Portland or are in process of being withdrawn. This is a natural evolutionary process. As the graduate resources at Portland State College increase in certain fields, it is quite natural that the need for the extension of total master's degrees to the Portland area from the campus institutions will not continue with the same urgency.

An interesting statistic is that which reflects the number of graduate courses sponsored in the Portland metropolitan area by Oregon State University, the University of Oregon, and Oregon College of Education. In the aggregate, these amounted to 267 courses in 1965-66, involving 4,632 course registrations.

In addition to the regular course offerings extended to the Portland area, there are special programs carried on there by the Division of Continuing Education in cooperation with one or more of the campus institutions. Illustrative of these special programs are the counseling and guidance institutes which have been offered now for several years by DCE, in cooperation with OSU and UO, under contract with the Department of Health, Education, and Welfare, U. S. Office of Education. Regional in nature and year-long in duration, these institutes are established to prepare secondary school teachers to become effective high school counselors. These institutes have been remarkably well received, and have gained national recognition.

Independent Institutions in the Portland Area

There is available in Portland graduate work from the independent institutions as follows.

The University of Portland offers doctoral programs in the fields of education and psychology and master's degree programs in some 14 professional and academic fields. (Table 37, p. 155.)

Lewis and Clark College offers programs leading to master's degrees in education, music, and music education.

Reed College has, for a number of years, offered a program leading to the master of arts in teaching. In January 1964, the Board of Trustees at Reed announced the adoption of policies which envisioned the development of an expanding program of graduate research and study at Reed College. Specifically, Reed College proposes: (1) the selective introduction of master's degree programs in the arts and sciences, and (2) the creation of research centers attached to Reed College under the same general management and legal arrangements and manned principally, but not solely, by individuals holding faculty appointments.

Oregon Graduate Center for Study and Research

We have previously referred to the Oregon Graduate Center for Study and Research, an autonomous agency operating under its own Board of Trustees. Though not a degree-granting agency or institution, the center may have important implications for the development in the Portland area of graduate study and research capabilities.

The resources of the center, aside from the very able Board of Trustees directing its development, consist principally of a building in Beaverton, donated to the center, and funds derived from interested corporations and other agencies and individuals.

We are not so rash as to suggest the lines of development of this autonomous agency. It has an important responsibility in fulfilling the needs identified by the Governor in his 1965 budget message to the legislature, namely, "to enlarge the opportunities for graduate education in Oregon and to expand the opportunities for advanced research at levels of excellence which will not only contribute to the advancement of knowledge and understanding, but will lend valuable assistance to Oregon's economic development."

The center is seeking to stimulate the development of graduate research in the Portland metropolitan area. It has, as a beginning, as we earlier noted, developed with PSC a cooperative working relationship in which the center has made a grant to PSC in support of some research being accomplished there. It is expected that the center will expand these kinds of stimulating relationships with PSC and other institutions in the state.

The Board of Higher Education has stated its desire to have state system institutions cooperate with the center, in whatever ways the institutions may find desirable, in the furthering of their programs of graduate study and research. The independent colleges and universities have expressed a similar interest in cooperating.

Northwest Regional Research Laboratory

The Northwest Regional Educational Research Laboratory has recently been established in Portland with a grant from the federal government. One of 11 large regional education centers being established throughout the United States, the center will serve Oregon, Alaska, Idaho, Montana, and Washington. Its function will be to seek to improve instructional programs in the elementary and secondary schools through the development of new educational methods, coordination of educational research relating to instruction in the five states, reporting of research findings to school districts, and the provision of special staff assistance to school districts and to colleges (teacher education programs).

At present (1966), temporary offices of the center are in the Lloyd Center, in Portland. Eventually the center will be housed in a new building, to be constructed with federal funds.

Studies of the Deficit in Graduate Study and Research in the Portland Area

The graduate study and research needs of the Portland area have been the subject of two reports by committees appointed by the governor, a report by the Portland City Club, and a report by the Oregon State Board of Higher Education. A brief reference to these reports may prove useful at the outset of this discussion as a backdrop against which to consider the matter in 1966.

Governor's Committees to Study Graduate Study and Research Needs in Portland

Committee on Science, Engineering, and New Technologies. In 1959 the Governor created within the Oregon State Department of Planning and Development a Committee on Science, Engineering, and New Technologies, which came to be known as the SENT Committee, and, subsequently, the SENT I committee, to distinguish it from a second committee appointed by the Governor. The SENT I Committee was headed by Dr. Walter P. Dyke, physics professor at Linfield College and president of the Field Emission Corporation, at McMinnville. The committee included within its membership representatives of institutions of the State System of Higher Education, independent colleges, and business and industrial leaders. Reporting in May 1961, the SENT I committee recommended the creation of an autonomous agency in Portland to promote graduate study and research. The center was to be supported, according to committee recommendations, from private and federal funds, and under appropriate conditions, state funds. The committee urged that the center be "free from legislative control."

Governor's Special Advisory Committee on Education. The SENT I committee recommendations led to the Governor's appointing a second committee, known as the Governor's Special Advisory Committee on Education, commonly referred to as the SENT II committee, since it was created to follow up the study of the SENT I committee. President Richard Sullivan, of Reed College, was chairman of the committee, which consisted of representatives of the independent colleges, the Oregon State System of Higher Education, and of business and industry. The state system was represented on the committee by the Chancellor and the presidents of the University of Oregon, Oregon State University, and Portland State College. The committee reported its findings in July 1962. One of the committee's most important recommendations was that an autonomous center for graduate study and research be established in Portland, having as its objectives:

1. "To enlarge the opportunities for graduate education for men and women of high promise in the city, in Oregon, and in the Pacific Northwest.

2. "To expand the opportunities for advanced research at levels of excellence which will contribute to the advancement of knowledge and understanding."

The Governor's committee recommended that initially the center "enter into working agreements to offer degree-granting graduate programs of present colleges and universities through the center and its facilities;" and that the center anticipate planning "additional special and post-doctoral programs of instruction to take optimal advantage of the competence available within the center, other colleges and universities and industry."

It was further recommended that the center move through three steps in the development of its instructional program.

1. The center should duplicate curricula in existence at present institutions at the master's and doctor's level, as a means of accelerating the establishment of a responsible instructional program.

2. A second step would be the modification of such curricula and degree requirements, "desired and proposed by the faculties either of the center or of an existing institution, and approved by both."

3. "A third step would be the creation of new curricula, definition of new degree requirements to be met, and even new degrees, that would have the objective of filling gaps among those currently offered elsewhere in the region and thus of extending the total range of advanced education available in the state. Such plans could be proposed on the initiative of the center or of an existing institution, but in each case should be mutually approved."

The Governor's committee recognized "that over a long period, two different kinds of situations might justify the granting of degrees by the center in its own name," but only after "the operation is substantial, a university atmosphere and environment have been established beyond a very narrow range of fields, the faculty is of high distinction and breadth, and accreditation of such degrees is feasible."

1. The first instance would be in the case of a "specialized field not (or not adequately) covered in an institutional faculty."

2. The second instance would be that in which an impasse is reached "between the center's judgment and institutional judgments over what degree program is most likely to fill an existing gap in the total educational offerings of the state."

With respect to consideration of the need for degree-granting by the center in the two eventualities cited, the Governor's committee urged "caution and restraint," and noted that it recognized that "it may prove to be never necessary or desirable in any particular application."

As to the fields to be given first emphasis in the development of the center, the committee recommended mathematics, the physical sciences, the life sciences, and engineering. The particular fields recommended quite tentatively for emphasis "would include (but not be limited to) electronics, biochemistry and health-related sciences, metallurgy, and chemical and other approaches to wood products analysis and processing." "These seem," said the committee, "most likely to build bridges most rapidly between mutually supporting efforts of the center and of industry and thus to be most closely related to the end of economic growth and development of Oregon." The committee foresaw that, over the long range, the center might eventually include business administration, public administration, social and behavioral sciences, and education.

Two basic positions taken by the committee, which undergirded the committee's recommendations as to the creation in Portland of the center, are worthy of special notice and emphasis.

1. The committee viewed the Willamette Valley as a whole, "not as a collection of disparate and potentially competitive communities and institutions." The committee observed that "expansion and qualitative improvement of advanced study and research at any one point in the Valley are more likely to be salutary for the whole area than harmful or threatening to any of its parts."

   Observing the two graduate institutions at the southern end of the valley, the committee recommended that the autonomous center be situated in Portland to assist in overcoming the deficit in graduate study facilities existing at the northern end of the valley.

2. The autonomous center must not be established at the expense of the state's meeting the needs of existing institutions and programs.

> The committee feels obligated to underscore its strong belief that the first task of the state and its citizens is to provide for the full development of existing colleges and universities. That potential development, in every quantitative and qualitative sense, is far greater than has yet been realized. No important diversion to new institutions in the way of talent, manpower, energy, or funds from present institutional missions and commitments, for both the public and private colleges and universities, can be justified. Significant increases in support from private benefactions and from tax sources, both state and national, are clearly required. Only by such actions can the state expect to nourish great colleges and universities.
>
> Existing and prospective needs - for faculty salaries, student financial aid, laboratories, offices, classrooms, and library resources - are real and continuing. To meet the dual challenges of population growth and of qualitative excellence, the state must continue to attract - and to attract in great numbers- teaching personnel of ability, imagination, and sensitivity. The first task is to capitalize on the investment of years in the development of present colleges and universities. Through this approach is the surest route to improvement in advanced study and research at collegiate and higher levels. On this point the committee wishes to be recorded as clearly as possible.

Reacting to the positive recommendations from his Special Advisory Committee on Education (SENT II), the Governor appointed, in the late summer of 1962, a

15-member Board of Trustees of distinguished Oregonians to establish, in Portland, the Oregon Graduate Center for Study and Research, as recommended by the SENT II committee.

The Board of Trustees included, among others, Dr. Dyke, chairman of the SENT I committee, Dr. Sullivan, chairman of the SENT II committee, several business and industrial leaders of Portland affiliated with moves to establish strong graduate programs in Portland, and representatives of the independent and public institutions of higher learning in Oregon. Three of the 15-member board were from state system institutions - the dean of the graduate school of the University of Oregon, the dean of the school of science of Oregon State University, and the executive officer for applied science at Portland State College. It should also be noted that Mr. Henry Cabell, a former president of the Oregon State Board of Higher Education, was appointed to the Board of Trustees.

The state system, for its part, expressed clearly its desire to cooperate with the autonomous center, when established, in the belief that "the existing graduate study and research facilities of the system will be strengthened by such a center."

Portland City Club Recommendations

In May 1963, the Portland City Club issued a report on Graduate Education and Research Facilities for Metropolitan Portland. Its recommendations can be summarized briefly as including:

1. The creation of a first-rank university in Portland by authorization to Portland State College to add graduate studies as rapidly as faculty and facilities permit.

2. The establishment in the Portland metropolitan area of a privately-supported center for advanced study and research at the post-doctoral level to further integrate physical sciences, engineering, and mathematics with the life sciences - medicine, biology, and medical psychology.

3. The financing and sponsorship by private enterprise of one or more industrial research institutes in metropolitan Portland.

The Report also asserted that the foregoing three aims could be achieved through the cooperation of educators, engineers, scientists, and businessmen. In testament of that faith, the City Club report recommended:

1. That management of private enterprises, educational institutions, and governmental agencies in metropolitan Portland ascertain which graduate courses will benefit their employees, and support those courses, as they are established, with released time and financial assistance to employees who engage in these studies.

2. That enlightened individuals and organizations endow academic chairs and provide buildings and funds for orderly development of the graduate education and university program for Portland.

3. That industrialists, educators, and scientists initiate efforts and seek out areas in which they may cooperate in research and the expansion of economic opportunity.

4

Oregon State Board of Higher Education Recommendations to the 1965 Legislative Assembly in Response to Senate Joint Resolution 8

The 1963 Legislative Assembly stipulated in Senate Joint Resolution 8 that the State Board of Higher Education should:

1. Establish a quality program of graduate education in the arts and sciences in the Portland metropolitan area.

2. Complete plans for such a program so that appropriate budgetary request might be made for the 1965-67 biennium.

Obedient to the foregoing mandate from the legislature, the board prepared a proposal which it submitted to the 1965 Legislative Assembly. The board's plan for meeting the requirements of Senate Joint Resolution 8 consisted of the following:

1. The establishment on a firm base in Portland of special graduate study and research programs in engineering and business administration, utilizing the combined resources of two or more institutions and agencies.

2. The full use of the graduate study and research resources of the Portland-based units of the state system (University of Oregon Medical School and its affiliated Oregon Primate Research Center, University of Oregon Dental School, and Portland State College).

3. The strengthening and expansion of the arts and science graduate offerings presently available at Portland State College in the master of arts and master of science in teaching programs.

4. The strengthening of the undergraduate programs in selected fields at Portland State College, in preparation for the authorization of departmental master's degree programs in selected arts and science fields.

5. Continued service to the Portland area from the campuses of the state system through the administrative offices of the Portland Continuation Center of the Division of Continuing Education (DCE).

Appropriations required for implementing the board's plan for meeting requirements of Senate Joint Resolution 8. We need not report in detail all of the features of the Board of Higher Education's plan, referred to above. What we should like to direct attention to are those aspects of the plan in support of which the board asked the 1965 Legislative Assembly for special appropriations. These aspects of the plan included:

1. Establishment of a graduate study and research center in Portland within the Portland State College land acquisition area:

Capital Outlay Cost

Estimated cost of building and equipment to provide approximately 20,700 square feet of space	$ 888,030
Estimated cost of land	220,000
Total capital outlay	$1,108,030

Operating Costs

To establish on a firm base a master's program in engineering with provision for a high quality program of graduate study and research, including contract research $368,200

(This engineering program was to be under the direction of Oregon State University. Professors to be employed for this program were to be selected by OSU and to have both the academic qualifications (PhD degrees) to teach at advanced graduate levels, and live contacts with industrial research groups. It was contemplated that these professors would bring with them, when hired, useful contacts in the industrial research area, and that they would have both the interest and the capability to teach and do research.)

To establish a master's degree program in business administration on a firm basis in Portland 75,000

(It was anticipated that this program would be administered by the University of Oregon, which had been offering a substantial part of the master's degree requirements in Portland through the Division of Continuing Education. This program would subsequently be phased out as PSC acquired the resources to offer a master's degree program in business administration.)

2. Strengthening of the undergraduate base at PSC as a step in the direction of master's programs at PSC in selected fields.

   a. To strengthen undergraduate programs in selected physical science subject matter areas in preparation for offering master's degree programs in these fields (physics, chemistry, mathematics, and applied science) $430,058

   b. To strengthen undergraduate programs in business administration and selected subject matter areas in the humanities and social sciences (English, history, economics) 206,925

   c. To strengthen the master of arts and master of science in teaching degree programs which lean heavily upon the subject matter areas 152,700

Total for PSC $789,683

Board request for funds to implement plan developed in response to Senate Joint Resolution 8. The Board requested the 1965 Legislature to provide the current operating funds called for in the foregoing plan, and to provide all but approximately $369,000 of the $1,108,030 capital construction costs to construct the proposed center. Under federal statute, this project would presumably qualify for federal participation in the capital construction in the amount of $369,000.

The Governor did not include in his recommended budget for the 1965-1967 biennium, which he submitted to the legislature, any funds for the foregoing board's plan. Rather, the Governor included an item of $1.5 million to be administered by the Board of Trustees of the Oregon Graduate Center for Study and Research, previously referred to in this report, and located in Portland.

The 1965 Legislature did not act favorably upon the Governor's recommendation in this instance, and took affirmative action on only part of the board's plan. It provided the funds requested for Portland State College ($789,683) but nothing for either the capital outlay or the current operating costs of the center proposed by the Board of Higher Education. Hence, the board was unable to do anything toward the construction of the center during the 1965-1967 biennium.

What Are the Needs to Be Served in Portland?

If one were to judge from a composite of the foregoing reports and recommendations that have been made within this past half-dozen years concerning the nature of the deficit in graduate study opportunities in the Portland area, one would assume that the removal of the existing deficit would require providing in Portland opportunities for:

1. Young men and women of promise who wish to pursue graduate study at the master's degree level in many fields within the arts and the sciences and at the doctoral and post-doctoral levels in selected fields.

2. Employed scientists, engineers, and other professional personnel who desire to complete advanced degrees, that is, master's and doctor's degrees.

3. Employed scientists, engineers, and other professional personnel who do not wish to pursue a degree program, but who do wish to participate in graduate-level credit and non-credit courses as a means of keeping abreast of basic research in their fields, or for the purpose of acquiring knowledge useful to them in furthering their professional interests. Such graduate work would presumably be at the master's, doctor's, or post-doctoral level.

4. Increased basic research of interest to business, industry, government, and education, and the stimulation, through such basic research, of invention and discovery leading to practical applications and the formation in Portland of new companies and growth and expansion of existing ones. Interest here is not alone in the basic research locally accomplished, but equally in having access to graduate faculties who are acquainted with basic research in their fields, the world around.

5. Industrial research in a variety of areas.

Expansion of the Graduate Study and Research Resources in the Portland Metropolitan Area

We are now at the point of looking toward the future in the development of graduate study and research resources in the Portland area. We think it instructive at this juncture, however, to cast a backward glance to observe the nature and extent of the developments in the Portland area graduate study field since the Governor's Committee on Science, Engineering, and New Technologies reported, in 1961, its findings and recommendations as to the Portland area graduate study and research needs.

Specifically, we should like to take as our focal point, in this backward glance, the major recommendations made by: (1) the Governor's Committee on Science, Engineering, and New Technologies in 1961, (2) the Governor's Special Advisory Committee on Education in 1962, and (3) the Portland City Club Report, in 1963, entitled Graduate Education and Research Facilities for Metropolitan Portland.

The Governor's two committees and the Portland City Club Committee included in their membership some of the state's most creative minds in higher education, business, industry, and government. And all three of these committees were vitally concerned with seeing Oregon overcome the graduate study and research deficit in the Portland metropolitan area.

We place in juxtaposition to the key recommendations from these three committees a brief statement as to the developments in the Portland area that seem related to these recommendations. It is instructive to observe what progress has been made.

1. The two Governor's committees (in 1961 and 1962) and the Portland City Club Committee (in 1963) each recommended that there be created in the Portland metropolitan area an autonomous agency, supported from private funds and federal government funds, to promote graduate study and research in the Portland area. The Governor's committee (SENT II) recommended that as a means of accelerating the establishment of a responsible instructional program, the autonomous center replicate curricula already in existence at present institutions at the master's and doctor's level. The City Club report recommended that the autonomous center be for advanced study and research at the post-doctoral level "to further integrate physical sciences, engineering, and mathematics with the life sciences - medicine, biology, and medical psychology."

   On several other important points, the Governor's SENT II committee and the Portland City Club were in agreement.

   a. The center should be autonomous, operating under an independent board of trustees.

   b. The center should be financed from private sources, not state. Concerning the financial support for the center, the Portland City Club asserted that the center's "sources for continuing support would include primarily national foundations and federal agencies."

      Concerning the willingness of local corporations and individuals in Oregon to support the proposed center with financial contributions, the City Club Committee had no question, as is indicated by the following statement:

      > For its formation, the center would depend on funds from local corporations and individuals. Later additional funds from these sources would accelerate the center's growth. Your committee believes that such support will be forthcoming. Further, this project fits closely to the essential proposal of the SENT II committee. The backing of the SENT II trustees now would go a long way toward making the Center for Advanced Study and Research at Portland a reality. /The reader will recall that the Governor had appointed the 15-member Board of Trustees for the autonomous Oregon Graduate Study and Research Center in July 1962, and it was to this Board of Trustees that the Portland City Club Committee is referring here./

   c. The autonomous center should seek to work out with the independent and public institutions of higher education and with business and industry, as well, effective cooperative relationships.

   What has transpired relative to the above recommendations? An autonomous graduate study and research center has been created in the Portland area, precisely in response to the stimulation provided by the Governor's Special Advisory Committee on Education, in 1962. The 15-member Board of Trustees of the Oregon Graduate Center for Study and Research (appointed by the Governor in the summer of 1962) is distinguished in the quality of its membership.

   Autonomous and independent, the Board of Trustees of the center has the widest possible latitude in its movements as it develops plans to bring to fruition the visions that the Governor's Special Advisory Committee on Education and the Portland City Club Committee had for such a center.

The State Board of Higher Education has expressed its desire to cooperate fully with the center as the center's plans develop, and the center is now entering into a working agreement with Portland State College. The independent colleges and universities have individually shown a similar interest in working with the center.

The center's access to the benefactions of interested individuals, business, and industry in Oregon, private foundations and the federal governmental agencies provides it with precisely the financial base envisioned for it by the Governor's committee and the Portland City Club.

In short, the Oregon Graduate Center for Study and Research, called for both by the Governor's committees and the Portland City Club, is in being now and is in process of further development, as it has been for several years. It is autonomous, as recommended, and rests upon the financial base recommended for it by the Governor's committees and the Portland City Club.

2. The Portland City Club stated as one of its three principal recommendations that there should be created in the Portland area "one or more privately supported industrial research institutes." Concerning this development, the City Club Committee said:

> The purpose of an industrial research institute is to help industry - either through improvement of industrial processes or through creation of new or improved products. Even when such an institute is undertaking pure fundamental research, its ultimate objective still will be to meet the needs of industry, and its fields for research will be chosen with this in mind.
>
> Because of these close ties to industry, we believe that an industrial research institute should be organized, controlled, and financed by business firms, not by public agencies. /Emphasis added./

The Committee on Post-High School Education is aware of some of the efforts that have been made in several quarters in the Portland area to develop industrial research institutes. We feel sure that the business and industrial interests of the Portland area, which were represented on the Portland City Club Committee, have the strongest kind of incentives for providing continuing stimulation of efforts to establish and maintain in the Portland area one or more industrial institutes serving the needs of the Portland business and industrial community and the state generally.

We concur fully with the Portland City Club that the creation of industrial research institutes is not a function of the educational community nor of any public agencies.

3. Both the Governor's Special Advisory Committee on Education and the Portland City Club Committee Report spoke of the development in the Portland area of a university. The Governor's committee, having in mind both the public and the independent sector of higher education, referred to the very great probability that "one or more" universities would develop in the Portland area. The Portland City Club Committee Report spoke out in support of the establishment in Portland of "a first-rank university with full graduate curricula," and identified Portland State College as the institution which the committee recommended be developed to full university status. The recommendation from the City Club Report was as follows:

    1. that the State Board of Higher Education immediately authorize Portland State College to add graduate studies as

rapidly as faculty and facilities permit and bring Portland State to a full university rank as soon as feasible.

2. that after authorization for university status for Portland State College has been granted, civic leaders including those who obtained funds and expert assistance for the Portland High School Curriculum Study seek similar support for the development of higher education in Oregon to aid in the transition from its primarily agricultural economy to one building more on science-based industry.

As we have earlier noted, and will discuss in some little more detail in our recommendations, the Oregon State Board of Higher Education has adopted guidelines for the development of Portland State College which clearly express the board's intention to develop at PSC wide-ranging programs in graduate curricula. The board has charged PSC administrative officials and faculty with the responsibility for working with the board and the board's office in developing plans for the evolution of PSC into university status. Rapid strides are being taken toward the achievement of this aim as we shall note below.

Recommendations of the Post-High School Study Committee Vis-a-Vis the Expansion of Graduate Study and Research Opportunities in the Metropolitan Portland Area

1. Insofar as the State System of Higher Education is concerned, its greatest contribution to the elimination of the Portland graduate study and research deficit would be the development of graduate programs at Portland State College in an orderly, systematic, and sequential fashion. As we have noted earlier, the guidelines adopted for PSC by the State Board of Higher Education in July 1964 show clearly the shape of things to come at Portland State College. The board intends to authorize PSC within the next few years:

   a. Master's degree programs in a wide range of fields.

   b. Selected professional programs at both bachelor's and master's levels in fields peculiarly appropriate to a metropolitan area.

   c. Programs, both undergraduate and graduate, which can and should be developed in cooperation with other metropolitan area institutions, both public and private.

   d. An expanded research capacity adequate to the support of graduate work.

   Thereafter it is expected that the college will look to the development of studies beyond the master's degree, and doctoral studies in selected fields.

   The steps being taken to move PSC into an expanding array of master's programs, as described on pp. 175-176, suggest the progress being made under these guidelines.

   At the risk of being charged by those familiar with graduate education with belaboring the obvious, we would suggest that the development of sound, effective graduate and advanced-graduate programs in wide-ranging fields in the humanities, social sciences, and sciences is not the work of a day or of a decade.

2. In those instances in which the development of graduate programs results in the state system institutions' offering in two or more institutions graduate programs in a given subject matter area, systematic effort should be given by the

state system to the encouragement of cooperative planning among the institutions so that, insofar as feasible, the institutions develop complementary emphases within such programs rather than mere duplications one of another.

3. It is recommended that the state system institutions based in Portland (PSC, UO Medical, Dental, and Nursing schools) explore the feasibility of developing a "joint-campus" agreement at the graduate level which would permit qualified students enrolled at one institution to have ready access, under controlled conditions, to the graduate study opportunities on the other campuses, with a minimum of red tape. Such an agreement is already in operation between the University of Oregon (Eugene campus), Oregon State University, and Oregon College of Education. It is also in operation between the University of Oregon (Eugene campus) and the University of Oregon Medical School in Portland.

   The general features of this "joint-campus" program, presently in effect in the above institutions are, as follows:

   a. The student and his regular adviser plan his term's work, which may include courses on his "home" and the "host" campus.

   b. The student registers on his "home" campus for his total program for the term, listing on his registration cards courses to be taken both on his "home" campus and on the "host" campus.

   c. Fees for the total program are paid at the "home" campus.

   d. The student is admitted to the courses on the "host" campus upon the basis of a class registration card received from the registrar on the "home" campus by the instructors in the courses on the "host" campus. Grades are then reported by the instructor on the "host" campus to the student's advisor on the "home" campus, who then turns in the grades to the "home" registrar for recording on the student's transcript.

   e. A record is maintained of the number of such registrations and courses taken on the "host" campus. If the instructional services provided by the two campuses, for the students they are asked to "host," do not balance reasonably evenly, necessary fiscal adjustments are made between the business offices of the two institutions.

   This, or some similar arrangement, would open up to students the entire graduate resources of the state system institutions in Portland, but under controlled conditions. We recognize that the plan as it presently is operative at the UO, OSU, and OCE may not be entirely appropriate to Portland's needs. What we are suggesting, though, is that institutions of the same system, located in the same community, should, for the benefit of graduate students, recognize their consanguinity in some other form than a genealogical chart. The outstanding success, thus far, of the special doctoral program in speech pathology which ties the resources of the Eugene campus to those of the Medical School campus suggests what is feasible under a program of this character.

   There are many evidences in Portland of the collaboration of the units of the State System of Higher Education based in Portland. We cite only one - the collaboration of the Medical School with the Portland Continuation Center of DCE in the counseling institutes - as an illustration. Over the past several years, the resources of the department of psychiatry of the Medical School have been available to the counseling and guidance institutes being held under the joint auspices of DCE, UO, and OSU in the DCE building in Portland. At present, as a result of this developing cooperation, one of the staff members of the department of psychiatry of the Medical School maintains an office and office hours in the DCE building, because of his interest in the counseling program.

4. We are of the opinion that the independent colleges might do more by way of cooperative planning and collaboration in use of graduate facilities, as they plan for the further development and more effective use of graduate study and research resources in the independent institutions. With staff and other high-cost resources limited, and the student demand less than at the undergraduate level, one wonders why some pooling arrangements might not be worked out which would provide for pooling the resources of institutions in some equitable manner, and pooling student clientele in high-cost areas where the student demand is inadequate to provide necessary clientele for more than a single program in the metropolitan area. The exploration of the interest in and the feasibility of such pooling of resources might reasonably be prompted by the Oregon Independent Colleges Association. We so recommend.

5. We are of the opinion that efforts to expand the graduate study and research opportunities in the Portland area are in the long-term interests of the state as a whole, as well as in Portland's interests, provided the development is carefully planned and integrated with the total development of graduate education in Oregon. We are concerned, however, about certain misapprehensions that seem to be abroad in Oregon. We should like to speak briefly of them.

   a. We would warn against the too-ready assumption, that is being made in some quarters, to the effect that the best and the principal justification for creating additional graduate study and research facilities in the Portland area lies in the quick, if not instantaneous, economic returns that seem promised the business and industrial community. There are knowledgeable and sophisticated people in Oregon, including some with unimpeachable scientific backgrounds and strong personal interests in the economic health of science-based industry in the Portland area, who question seriously, as we do, the assumption that one should expect a close relationship between the added increment of Portland-produced basic research emerging from the newly established facilities that are being urged, and the increase in the number and range of science-based industries there. Certainly, they question it on anything but a long-haul basis. And they have real concern, as we do, least the unwary, accepting uncritically the assumption of this close relationship, will be disappointed; that such disappointment may have an adverse effect upon the development of comprehensive graduate study opportunities in the Portland area.

   b. We would urge that, in the laudable interest of seeing develop in the Portland area expanded graduate study and research opportunities, the people of the state not lose sight of the fact that the state has a great deal to gain from capitalizing now on the investment of years in the graduate programs that are in being. Many of these are now well recognized for their excellence - even renowned. Their potential for further development is very great and from their position of eminence they are capable of returning to the state, in manifold ways, very substantial dividends.

      We would urge, too, that in our efforts to provide for graduate resources in the Portland area for the purpose of attracting to Portland "science-based" industries, we not overlook the fact that continuing heavy investments in research will be required in our existing research programs, if Oregon is to remain in the forefront in these areas.

6. We believe that because of its unique characteristics, the Oregon Graduate Center for Study and Research has the potentiality of adding an important dimension to the planning and promotion of research and development in the Portland area. We think it would be most unfortunate if the center were to be robbed of its unique freedom, by taking on the color of a state-supported institution through acceptance of state funds for its operation. We believe that the Governor's Special Advisory Committee on Education (1962) and the Portland City Club (1963) were

right beyond question. The support of such a center should be from private sources primarily, with such assistance from the federal government as is available.

We commend the developing relationships between the center and Portland State College and other institutions in Oregon. Oregon's potential for graduate study and research will be expanded by such collaboration.

Research Centers Statewide

7. The committee wishes here to record in the strongest possible terms its belief in the importance of research to the well-being and prosperity of Oregon. The development of knowledge through research and the utilization of that knowledge in the study and solution of the problems affecting the well-being of the people of the state are among the most important of the objectives of higher education in Oregon as these are set forth in Chapter II.

The concept of research as a service to the people of Oregon is well established in the state. Apart from the instructional and training functions of the research effort which are of incalculable importance in the education of competent new researchers, the research activities of our public and independent colleges and universities, and of the private research agencies in Oregon, have enriched immeasurably the economic, political, and social life of our state through the application of research knowledge to the needs of the state.

The concept of research centers has been much in the news in the past several years in connection with developments in Portland. Actually, Oregon has benefited for years from the activities of research centers located strategically throughout the state. We refer to such centers as: the experiment stations operated by OSU in 12 widely separated parts of the state (Astoria, Redmond, Union, Klamath Falls, Ontario, Hood River, Aurora, Pendleton, Moro, Medford, Burns, and Hermiston), the oceanography center at Newport, the marine biology station at Charleston, near Coos Bay, the privately-operated metals research center in Albany, and the Oregon Regional Primate Center, near Beaverton.

Without wishing to undertake here any detailed recounting of the contributions of this variety of research centers, we would observe that regional centers like the experiment stations do provide: (1) a means of researching, on-the-spot, problems of given geographic areas of Oregon, (2) a center for disseminating to the people of the area research information from all sources having relevance to the problems of the area, (3) a useful avenue by which "town and gown" may collaborate in researching problems of interest to the area.

The effectiveness of such centers in resolving problems in agriculture, forestry, and home economics in Oregon is unquestioned. The dissemination of research knowledge relating to other aspects of life, as Oregon becomes more urban, can, we believe, be as effective. The integration of the Cooperative Extension Service and the Division of Continuing Education in Oregon, discussed earlier in this report, is related to this need for dissemination of research and other knowledge to agriculture, business, industry, and the population generally in the various areas of Oregon.

We believe, moreover, that through the collaboration of higher education, business, industry, and agriculture, with private benefactions from individuals, business, and industry added to resources which are or can be made available through the institutions of higher education, efforts of such regional centers to carry on research and to disseminate research knowledge can be increased.

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CHAPTER VII

Proprietary Schools

Proprietary schools are schools which are privately owned and managed, and which, in addition to being service-oriented, are profit-motivated. Thousands of youth and adults in the United States are provided post-high school occupational education through proprietary schools - some through correspondence offerings and some through residence programs at the proprietary schools.

Few outside those employed in the correspondence study programs have any appreciation of the extensive use of correspondence study in the United States. Venn reports a study made in 1962 by the National Home Study Council (an agency representing 59 of the larger proprietary schools offering correspondence work), which revealed that in the 919 reporting institutions there was reported a total of 3,411,742 persons enrolled in 9,067 courses of correspondence study. According to Venn, these included courses such as "secretarial training, high school and college academic subjects, Bible study, radio-TV repair, and a variety of vocational and technical offerings."[1]

Venn also quotes a 1962 report from the United States Chamber of Commerce to the effect that more than 7,000 (including 290 of the largest) business firms use correspondence education or carry out all their training through correspondence.

Information regarding the history, background, and growth of proprietary schools in Oregon is limited. However, such evidence as there is suggests that the earliest vocational schools in Oregon were private trade schools. Speaking of the earliest trade school in Oregon, Menegat says:

> The earliest trade school in Oregon, now known as Multnomah College, had its beginning as a night school for adults in the fall of 1884. Classes were first held in a building located on the Northeast corner of First and Salmon Streets under the auspices of the Portland Y.M.C.A. At the turn of the 20th century, the program of the school was broadened considerably with the advent of the automobile and the industrial and trade development of the city. A college of engineering was added in 1920. Oregon Institute of Technology became the official name of the school. The junior college curriculum which the school still follows was established in 1930. In 1937, the name was changed to Multnomah College because the old name was too long and confusing since the school had become a junior college. In 1945, the school separated from the Y.M.C.A. and became an incorporated institution.[2]

Other private vocational schools established at an early date include Adeox School, which offered a diesel engineering course, Behnke Walker Business School, established in 1902, Northwestern School of Commerce, and Pacific Business College, all located in Portland, and Capital Business College, located in Salem.

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[1] Venn, op. cit., p. 106.

[2] Paul A. Menegat, History of Trade and Industrial Education in Oregon, unpublished doctoral dissertation (Oregon State University, 1953).

The proprietary schools endeavor to meet the special needs of those vocationally inclined citizens or those citizens who have a desire for training in a specific field but lack, or have no interest in, liberal arts education, which is a part of the educational offerings of the four-year institutions. This is one of the special characteristics of the proprietary schools which has, over the years, given them a significant place in Oregon education. In some fields of vocational education, the offerings of the private trade schools are more extensive than those to be found in the public institutions.

Alert to the needs of the changing industrial technology and the business economy for trained persons with specific skills, the proprietary schools have sought to remain sufficiently adaptable in their offerings that they can keep abreast of the needs of business and industry in the character and quality of training they offer.

In recent years in Oregon, many proprietary school administrators, and some legislators, have sensed that, if the proprietary schools of Oregon wish to enhance their capacity for effective service in Oregon, some standards relating to their operation should be established. The standards having been established, proprietary schools meeting or exceeding these standards could then clearly be identified and distinguished from those proprietary schools not meeting these minimum operational standards. Such is the way to a general upgrading of the proprietary schools in Oregon. Some of the steps being taken in this direction will be referred to later in this chapter of the report.

A Review of the Proprietary Schools in Oregon

Included in this review of proprietary schools in Oregon are the 118 proprietary schools domiciled and operating in Oregon in September 1965, which provide instruction to fit an individual to pursue a career in a recognized, profitable, vocational employment area, whether pursued for wages, salary, or commission. Not included in this count of 118 schools are:

- Thirteen behind-the-wheel driver training schools licensed by the Department of Education under ORS Chapter 345, and 29 private flight schools that provide instruction leading to a private pilot's license. The flight schools operate under the joint jurisdiction of the Oregon State Board of Aeronautics (ORS Chapter 493) and the Federal Aviation Administration. The driver training and flight schools were omitted from consideration here because it was felt that there is no direct relationship between an individual's ability to drive a car or pilot a private airplane and his employability.

- Vocational training in several occupational areas provided to eligible inmates of the Oregon State Penitentiary and the Oregon Correctional Institution. The vocational training received by inmates at these penal institutions has made it possible for many of them to secure employment following discharge. These vocational programs are excluded from this study because they are not profit-oriented, and they do not enjoy the privileges of the private enterprise system.

- Privately-owned Bible schools. A review of the programs offered by these schools indicates that credits earned by enrollees are transferable to some degree-granting institutions, hence the schools are not included in this study.

- Nurses training programs offered in three private hospitals of the state. These are excluded from consideration in this review for the same reason the Bible schools were excluded.

Types of Vocational Schools

The 118 proprietary schools included in this review are classified in Figure XX in terms of 15 separate categories, as follows: aeronautics flight, arts and crafts,

FIGURE XX: PROPRIETARY VOCATIONAL SCHOOLS OPERATING IN OREGON, SEPTEMBER, 1965

Type of Vocational School	Number of Schools by Type	Licensing Jurisdiction	Course Offering of Schools	Range of Admission Requirements	Enrolled Students Sept. 65	No. completing course past yr.	Location of Schools In Portland	Location of Schools Out of Portland	Range in Tuitions
Aeronautics Flight Schools	18(1)	Chapter, 49B, ORS & Federal Aviation Adm.	Flight Training for Commercial Pilots License & Ground Training Courses.	17 yrs. of age. Ability to read and write. Medical examination.	280	140	2	16	$1500 to $2500
Arts and Crafts Schools	3	Chapter 345, ORS.	Commercial and Fine Arts. Art Appreciation. Floral Design. Furniture Upholstering.	Interest and aptitude. Personal interview. Good use of hands. Entrance examination.	101	240	3	--	$285 to $760
Barber Schools	5(2)	Chapter 690, ORS.	Scientific Fundamentals of Barbering	18 yrs. of age. Graduation from 8th grade or equivalent. Medical exam. indicating no infectious or contagious disease.	159	170	3	2	$350 plus tools
Beauty and Hairdressing Schools	30	Chapter 691, ORS.	Scientific Fundamentals of Hairdressing and Beauty Culture.	17 yrs. of age. 2 yrs. of high school or equivalent. Medical exam. and negative Wasserman test.	1527	659	9	21	$195 to $500
Business Schools	21	Chapter 345, ORS.	Secretarial Science. Business Machines. IBM Key Operators. Accounting--Legal Secty. Medical Secretary--Receptionist.	17 yrs. of age. 2 yrs. of high school or equivalent. Aptitude & interest. Personal interview.	2349	1693	9	12	(Wkly. rate $12.50-18.50 (Mo. rates-$50 to $75) (Course rate $385-$945)
Correspondence Schools	5(3)	Chapter 345, ORS.	Metal Craft--Diesel. Heavy Equipment--Tractor. Medical-Dental Technicians. Oil Burner Maintenance. Cummins Crs. Elect.	High school diploma or equivalent. Aptitude test. Interest & aptitude.	18,874 (150)(5)	3928 (1200)(5)	4	1	$128 to $1295
Dental and Medical Technician Schools	2	Chapter 345, ORS.	Dental & Medical Receptionist. Crown & Bridge. X-ray Technology. Medical & Dental Assistants. Dentures.	High school diploma or equivalent. 18 yrs. or older. Good health. Prefer some college training.	145	144	2	--	$300 to $1250
Driver Training for Commercial Vehicles Schools	1(4)	Chapter 345, ORS.	Commercial Transport Operation-Pickup and Delivery. Refresher Course.	Traffic driving knowledge test. 18 yrs. of age. Physical examination.	7	52	1	--	$545 & hourly rates
Electronics Schools	3	Chapter 345, ORS.	Operating Engineer. Radio & Television Repair. Radio & Television Broadcasting. Electronics Techn.	High school diploma or equivalent. Aptitude test. 1 yr. college is recommended.	256	196	2	1	$100 to $750
Heavy Equipment Schools	3	Chapter 345, ORS.	Diesel & Heavy Equipment Operators. Diesel & Heavy Equipment Mechanics.	Screened as to mechanical ability. Physically capable. High school diploma or equiv. Aptitude test.	485	287	3	--	$300 to $1200
Massage Schools	1	Chapter 345, ORS.	Anatomy--Physiology. Hygiene--Exercise--Hydrotheraphy-Electrotheraphy--Massage.	High school diploma or equivalent. Good use of hands.	4	8	--	1	$300 for 600 hrs.
Modeling and Charm Schools	5	Chapter 345, ORS.	Professional & Junior Modeling. Dress Fashioning. Posture. Personal Charm.	7 yrs. of age & up. 13 yrs. of age & up. High school diploma or equivalent. Personal interview.	301	812	4	1	$45 to $900
Real Estate Schools	7	Chapter 345, ORS.	Real Estate Salesman. Real Estate Broker.	21 yrs. of age. Interest-experience-aptitude. High school diploma or equiv. College training recommended.	210	853	5	2	$35 to $125
Salesmanship & Self Improvement Schools	5	Chapter 345, ORS.	Dale Carnegie Prof. Sales--Sales Training. Self Improvement. Effective Sales Speech.	Mature individual. Entrance exam. Sales experience. Interest & aptitude.	722	947	5	--	$40 to $395
Trade & Technical Schools	9	Chapter 345, ORS.	Printing-Drafting-Transmission-Elec. Tech. Eng. Tuneup. Auto Body & Fender Rpr. Groc. Checking-Meat Cutting. Bartending-Cocktail Hostess. Nursing Aides.	16 yrs. of age. Physically capable. No requirements. High school diploma. Mechanical experience.	458	1422	9	--	$165 to $1400
TOTALS	118				25,878(6) 7,154(7)	11,551(6) 8,823(7)	61	57	

(1) Excludes 29 schls. that provide training for private pilot's license.
(2) Ore. Correction Inst. has 5-chair barber train. course by special permission of Board of Barber Examiners.
(3) 3 of the schls. included in this type offer some resident work but major portion of their operation is home study courses.
(4) Excludes 13 driver train. schls. that provide train. for behind-the-wheel instruction to persons learning to drive.
(5) Figures in parentheses represent resident enrollments and resident students completing courses.
(6) Includes home study enrollment and resident enrollments.
(7) Represents resident enrollment only.

barber, beauty and hairdressing, business, correspondence or home study, commercial driver training, dental and medical technician, electronics, heavy equipment, massage, modeling and charm, real estate, salesmanship and self-improvement, and trade and technical.

It seems appropriate in this study to identify all home study schools separately even though the course offerings of these schools relate to several vocational areas. Three schools included under the category of correspondence schools in Figure XX, provide a limited amount of resident instruction; however, since the major emphasis and major volume of business in these schools is in the home study training they provide, they are categorized as correspondence schools.

The 18 aeronautics flight schools include all privately owned flight schools in Oregon that are approved by the Federal Aviation Administration to offer training to enrollees who desire to secure a commercial pilot's license. As previously noted, there are 29 other private flight schools that offer training to qualify enrollees for a private pilot's license, but this group of schools is excluded from this study for reasons previously noted. (Both commerical pilots and private pilots must register with the Oregon State Board of Aeronautics before operating a plane.)

Number of Schools by Type

The largest number of schools listed under any of the 15 categories of schools in Figure XX is the 30 beauty schools. The 21 business schools constitute the second largest category. The smallest number of schools in any single category is one; there was but one driver training for commercial vehicles school and one massage school in September 1965.

Licensing Jurisdiction

Sixty-five of the 118 schools listed in Figure XX (55.0 percent) are licensed by the State Department of Education under the provisions of ORS Chapter 345. ORS 345 specifies that these schools must be licensed and must supply a performance bond to the state of Oregon in the amount of $2,500. The law also provides that private vocational schools domiciled outside the state but soliciting business within the state must register with the State Department of Education. Any salesman representing these schools in the state must also be licensed. Such salesmen must supply a surety bond to the state of Oregon in the amount of $2,500. The State Department of Education requires all licensed schools to submit a copy of their course offerings, a list of the school's instructors, together with a statement as to their training and experience, and the cost of tuition for the course or courses offered.

Fifty-three of the 118 schools in Figure XX (45.0 percent) are licensed by separate boards as indicated below.

- The 18 aeronautics flight schools that provide training leading to an enrollee's securing a commercial pilot's license are approved by the Federal Aviation Administration, and the pilots' licenses are subsequently issued to the pilots by this same agency. The State Board of Aeronautics, as provided in ORS Chapter 493, registers all commercial and private pilots.

- The five barber schools are licensed by the Oregon Board of Barber Examiners under the provisions of ORS Chapter 690. Included in this chapter of the law are items specifying entrance requirements for such schools, the course of study to be followed, and the minimum hours that an enrollee must complete to secure a barber's license.

- The 30 beauty schools are licensed by the Oregon State Board of Cosmetic Therapy Examiners under the provisions of ORS Chapter 691. This chapter of law specifies entrance requirements for enrollees and prescribes the course of study to be offered, and the minimum hours an enrollee must complete in order to secure a license.

Course Offerings of Schools

The course offerings of the private vocational schools licensed by the Department of Education under the provisions of ORS 345 (Figure XX, column 4) cover a wide range of vocational training, and the course offerings of these schools necessarily vary widely.

The course offerings or content of the aeronautics flight, barber, and beauty schools are prescribed by laws governing the operating and licensing of such schools.

Range of Admission Requirements

Entrance requirements in the schools licensed by the State Department of Education under provisions of ORS Chapter 345 (Figure XX, column 5) vary widely. Some of these schools have no established entrance requirements other than the enrollee's interest, while other schools require completion of a prescribed number of years of formal schooling or its equivalent. A few schools select enrollees only after interview. Many schools have some form of age limitation for enrollees.

There is also wide variation in the entrance requirements of schools offering training in the same vocational areas. This range should not be interpreted as representing inconsistency or weakness on the part of the proprietary schools, for some of these schools do a commendable job in gearing their instructional program to the capacities of the students suggested by the admission requirements.

Admission requirements for three types of schools (aeronautics flight, barber, and beauty schools) are clearly defined in the law. Aeronautics flight schools require that the enrollee be 17 years of age, have the ability to read and write, and pass a physical examination prior to securing the commercial pilot's license. The entrance requirements to barber and beauty schools are listed in column 5 of Figure XX.

Enrollment of Students, September 1965

The enrollments[1] of the 118 private vocational schools shown in Figure XX, column 6, total 25,878. Of this total, approximately 73 percent (18,875 students) were enrolled in home study courses offered by five correspondence schools. Of these 18,875 students, more than 95 percent were residents of other states.

The enrollment of all the 118 private vocational schools included in this study, excluding five correspondence schools' home study students but including the enrollment of resident students in three of these institutions, totals 7,154. This latter figure is a more realistic expression of the Oregon students accommodated in the proprietary schools than is the figure which includes the 18,875 home study students, the great bulk of whom are residents of other states.

It should be observed, in reading Figure XX, that the enrollment shown for correspondence schools includes home study enrollments. Directly below this figure we have placed in parentheses a figure representing the resident enrollment of the three schools included in this group who, though their major emphasis is in the area of home study, yet do provide resident work for some students. The enrollment for barber schools corresponds to the total number of chairs provided in the five private barber schools in operation in September 1965. The Oregon State Board of Barber Examiners indicates that barber schools may enroll only as many students as they have barber chairs in their schools.

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[1] Enrollment figures in column 6, Figure XX, were secured from reports submitted by the schools, or, in the case of aeronautics flight, barber, and beauty schools, they were secured primarily from the state or federal agency that licenses such schools.

Number of Students Completing Courses During Previous Year (1964-65)

We believe that the number of students who completed courses in the 118 private vocational schools during 1964-65 (Figure XX, column 7) has special significance as follows:

- Many of these schools offer courses that a student may complete in periods varying from as little as a week to a maximum period in excess of one year, and, in the case of some correspondence schools, four years. The average length of course offered in the proprietary vocational schools is probably slightly more than six months. In view of this fact, it is entirely possible that during any one-year period, the number of students completing a course or courses in a school may far exceed the number of enrolled students in the school at any given time. The following illustration makes the point. The seven real estate schools that are listed in column 1 of Figure XX, had, in September 1965, a combined enrollment of 210 students; yet, during the preceding year (1964-65), 853 students completed courses in these seven schools. Other types of schools listed that had a larger number of students completing courses during the preceding year than the number enrolled in September 1965, include arts and crafts, commercial driver training, modeling and charm, salesmanship and self-improvement, and trade and technical.

- In considering student capacity of private vocational schools for any year, it is essential that one take into account the length of training period required by enrollees to complete a course.

The number of students who, during 1964-65, completed a course or courses in the 118 private vocational schools totals 11,561. Of this number, approximately 34 percent (3,928), completed home study courses in the five correspondence schools. Excluding these latter students, but including those who did resident work in such schools, the total number of students completing courses in 1964-65 is seen to be 8,833.

The 140 students shown as completing courses in aeronautics flight schools represent the number of commercial pilot licenses issued to enrollees completing work in these schools during 1964-65.

The 170 students shown as completing a barber school course during 1964-65 represent the number of students from such schools who were issued barbers' licenses during that year.

The 659 students shown as completing beauty school courses during 1964-65 represent the number of students from these schools who completed their work and were issued a license to practice.

Location of the Schools

It will be observed from Figure XX (column 8) that 61 of the 118 proprietary schools (51.7 percent) included in this report are situated in Portland. The remaining 57 schools are situated in the other communities of the state, Eugene, Klamath Falls, Medford, Roseburg, Salem, etc.

Range in Tuition in Proprietary Schools

Tuition in the proprietary schools ranges widely, and appears to follow no general pattern (Figure XX, column 10). There is a wide variation of tuition rates among the schools even within a given vocational or occupational area, in some instances varying with the length of the course.

Length of Proprietary School Programs

If one considers all courses offered by the 118 private vocational schools under consideration in this report, the average length of the courses is slightly in excess of six months, though the range is from one week (in some trade and vocational schools) to one year or 14 months, in the case of some heavy equipment and electronics schools. One correspondence school offers a course extending over a four-year period. Many of the business schools offer courses approximating 9 months.

The length of the courses in the barber and beauty schools is prescribed by law and approximates one year.

Qualifications of Proprietary School Instructors

Instructors in barber, beauty, and aeronautics flight schools must meet minimum requirements prescribed by law. Schools licensed by the State Department of Education under ORS Chapter 345 are free to employ instructors according to their own views. They are required, however, to file with the State Department of Education a list of the instructors employed and their qualifications. A review of these files indicates that there is a wide range in the qualifications of instructors employed. Many of the schools place more emphasis upon the instructor's work experience than upon his formal education. Some schools are obviously highly selective in the instructors they employ, while a few of the proprietary schools employ instructors with very limited work experience or formal training in the area in which they are instructing.

Present Student Capacity of Proprietary Schools

Rough estimates suggest that the 118 proprietary schools, excluding the out-of-state enrollees in the correspondence schools, have an estimated enrollment capacity of 12,000 students. A survey made by the Oregon Association of Private Vocational Schools in the spring of 1965 concluded that those private vocational schools which are included in this study and which are licensed under provisions of ORS Chapter 345 have an enrollment capacity of 10,000. The estimated capacity of the three categories of proprietary schools not licensed under ORS Chapter 345 (18 aeronautics flight schools, five barber schools, and 30 beauty and hairdressing schools) is estimated to be 2,000. In view of the fact that the average length of programs in the proprietary schools is slightly more than 6 months, it is quite possible that in the course of a full year the proprietary schools could serve 20,000 students.

Potential Student Capacity of Proprietary Schools

The potential student capacity of proprietary vocational schools is not of particular significance in this study. Since these schools are privately owned and operated and are profit-oriented, it is quite likely that the profit motive will result in their securing the needed facilities, equipment, and instructors to handle any increase in enrollment.

Legislative Action 1963-1965 Affecting Proprietary Schools

The significant legislation affecting the proprietary schools which was enacted by the 1965 Legislative Assembly grew out of the recommendations of the Legislative Interim Committee on Technological Employment which was appointed in response to Senate Joint Resolution 16 of the 1963 Legislative Assembly.

1963 Legislative Interim Committee on Technological Employment

The recommendations of the foregoing interim committee relating to the proprietary schools dealt with three matters: (1) the need for an advisory committee on proprietary schools to work with the State Superintendent in the development of standards for proprietary schools, (2) the need for tuition refund provisions to be included in contracts between students and the proprietary schools, and (3) the need to make provisions for public school administrators to contract for services from private schools as a means of avoiding unnecessary overlap and duplication of offerings by the proprietary and public agencies.

Recommended appointment of advisory committee - development of standards for proprietary schools. Referring to the need for the appointment of an advisory committee on proprietary schools to advise with the State Superintendent of Public Instruction in the development of standards for proprietary schools, the interim committee on technological employment said:

> The quality of these schools ranges from excellent to poor. They need to set new standards for themselves toward which all may aim. . . . But care is needed to prevent unnecessary state control of private business from occurring. Therefore, the committee recommends that the Superintendent of Public Instruction appoint an advisory committee of seven officials from private proprietary schools which shall recommend standands of operation to him. Schools which voluntarily choose to meet these standards will receive a certificate from the superintendent; however, nothing in the bill prohibits other schools from operating.

Recommended provisions for tuition refunds. The interim committee emphasized the need for the inclusion in the contracts between school and student of a schedule of tuition and fee refunds. The committee recommended that the proposed advisory committee work with the State Superintendent of Public Instruction in the development of a suitable schedule.

Recommended establishment of authorization for public school administrators to contract for service with the proprietary schools. The interim committee also emphasized the need for a statutory authority that would enable public officials to enter into contracts with the proprietary schools to provide educational services to students enrolled in educational centers or community colleges. The committee said:

> Some private proprietary vocational schools are able to respond to industrial training needs faster or offer a more direct training route to certain occupations than public schools. Because the private school facilities exist without public investment, using them to supplement public vocational school curricula may make good financial sense. There have been cases brought to the attention of the committee where public bodies, using federal, state, and local funds, may have unnecessarily and inefficiently duplicated the services of reputable private proprietary vocational schools. One obstacle has been a lack of statutory authority enabling public education authorities to enter into contracts with these schools to provide educational services to students enrolled in education centers or community colleges. The committee recommends that, upon approval of the Superintendent of Public Instruction, public school administrators be allowed to contract for services from private schools.

1965 Legislative Assembly Action Affecting Proprietary Schools

The interim committee's findings, actively supported by several directors of proprietary schools, led to the enactment of four laws by the 1965 Legislative Assembly, affecting proprietary schools. These laws dealt with the three matters referred to above, plus a provision allowing, under certain circumstances, for the students in vocational schools to be counted as "eligible students" in applying for student loans from the Common School Fund.

Advisory Committee Authorized - Standards Called For. In Chapter 529, Oregon Laws 1965, the legislative assembly provided for the State Superintendent of Public Instruction to appoint a representative advisory committee of seven officials from vocational schools to serve terms of four years. The law states, as follows, that the advisory committee shall:

> (a) Conduct studies and make recommendations to the board concerning the need for vocational and technical education facilities, the types of education needed and by whom it can best be provided.
>
> (b) Develop recommended standards for vocational schools as provided in section 5 of this 1965 Act which are consistent with the purpose of such schools.
>
> (c) Investigate and present findings to the board on the administratin and operation of laws relating to vocational schools. However, the investigations and findings of the advisory committee do not affect the authority of the Superintendent of Public Instruction to issue, suspend or revoke the license of any vocational school.
>
> Section 5. The advisory committee shall recommend to the board minimum standards for the operation of vocational schools. In making its recommendations, the committee shall consider changes in technological, economic, and social conditions which affect employment needs and opportunities. The committee recommendations may specify minimum standards for:
>
> (1) Training conditions and facilities
>
> (2) Health, safety, and welfare of trainees
>
> (3) Nature, scope, and measurable levels of competency of desirable training.
>
> Section 7. (1) The Superintendent shall cause to be issued certificates of compliance to vocational schools which demonstrate compliance with the standards adopted under section 5 of this 1965 Act. However, the certificate of compliance shall not be required of any vocational school as a condition to issuance or continuance of its license. . . .

Provision was also made for community colleges to give credit for some courses acquired in a proprietary vocational school. The Act also provided for a sum of money to be appropriated to the Department of Education to provide personnel, equipment, and supplies which are to be expended to carry out the provisions of the law. This will provide for greater liaison among the vocational schools and between the vocational schools and the State Department of Education which, in turn, should enhance the total proprietary school program.

Tuition refund schedule provided for in contracts between proprietary schools and students. Chapter 409, Oregon Laws 1965, amended ORS 345.120 to provide that any tuition and training contract entered into between an individual and a vocational school shall contain a schedule for the refund of tuition and fees when the person does not complete the course of instruction which was the subject of the contract.

No action or suit may be brought by a school on a contract that does not contain this refund schedule. This provison of the law does not limit, however, a school's right to defend any action or suit brought by a person on a contract which does not contain such a schedule.

Students of vocational schools may be considered eligible to apply for student loans from Common School Fund. Chapter 532, Oregon Laws 1965, creates new provisions, amends ORS 327.425, 327.430, 327.440, and 327.445, and provides that an enrollee in a vocational school approved by the Superintendent of Public Instruction or in an institution which is, in the opinion of the State Scholarship Commission, conducting courses comparable to those in accredited two- and four-year institutions of higher education, can be given recognition as an "eligible student," thus permitting the enrollee to apply for a student loan from the Common School Fund.

Community college authorized to contract with private vocational school for services to students enrolled in college. Chapter 236, Oregon Laws 1965, provides that a community college may, under certain conditions, contract with a private vocational school to provide services to students enrolled in the community college. The administrator of the college is authorized to determine if the services to be provided by the proprietary school meet the standards required by the college and if the costs are equal to or less than what would be incurred by the college in providing similar services.

The foregoing legislation was enacted by the 1965 legislative assembly in the conviction that the interests of the people of Oregon would be served by strengthening the proprietary schools and increasing their capacity for service to the state. In this conviction we concur. We subscribe fully to the views expressed by the legislature in section 3 of Chapter 529, Oregon Laws 1965, as follows:

> The legislative assembly finds that private vocational schools operated in this state are capable of increasing the educational opportunities available in this state and of making a contribution to the social and economic progress of the people of this state. Private vocational schools offer different approaches to education than do public schools and are often able to provide vocational and placement assistance not otherwise available. It is the intent of the legislative assembly to provide for standards for the operation of private vocational schools which will strengthen them and provide protection to the students attending them and to the public generally.

Implementation of 1965 Legislation Relating to Proprietary Schools

Advisory Committee Established

Consonant with the views of the legislative assembly, as set forth above, and even before the enactment of the legislation, the State Superintendent of Public Instruction appointed a seven-man advisory committee representative of the private vocational schools in Oregon. The State Superintendent charged the advisory committee to establish rules and regulations governing its operations; to recommend to the State Superintendent appropriate standards for proprietary schools; to recommend a tuition refund policy to be included in the proprietary school-student contract; and to make such other recommendations to the State Superintendent and to the State Board of Education for improving the capacity of the proprietary schools for service to the people of Oregon as the committee's studies would suggest.

Standards Adopted by State Board of Education

The standards developed by the advisory committee and recommended by the State Superintendent of Public Instruction have been presented to and adopted by the State

Board of Education (December 1965) following a public hearing. They are as follows:

1. The school's instructional staff shall be qualified in the subject areas in which they teach by educational training and/or a minimum of one year's experience in their teaching field.

2. The school shall provide evidence that it has adequate financial resources to perform its announced instructional program.

3. The school shall have been in operation for not less than two years.

4. The school shall provide physical facilities such as classrooms, shops, laboratories, equipment, light, heat, and ventilation that will permit students to have satisfactory work environment.

5. The school's owners, managers, directors, and sales representatives shall maintain a satisfactory record of business integrity.

6. The school shall have in operation an adequate system of student screening that will assist in determining the enrollee's aptitude to profit from the instruction provided.

7. The school shall provide reasonable evidence that its graduates are well trained and that the graduates receive advisory employment service.

The advisory committee has also recommended, and the State Board has adopted, a tuition refund policy and schedule to be included in proprietary school-student contracts.

These developments, growing out of the initial impetus provided by the study made by the Legislative Interim Committee on Technological Employment in the 1963-1965 interim, promise much for improved service by the proprietary schools of the state. But there yet remain further steps to be taken.

Steps to Further Increasing the Capacity of Proprietary Schools for Effective Service to Oregon

Accreditation of Proprietary Schools

To understand fully the issues relating to the accreditation of proprietary schools it is necessary to distinguish between the function of licensing private vocational schools to operate or to do business in Oregon, and the issuing to such schools certificates certifying that they meet minimum standards adopted by the Board of Education under provisions of ORS 345.350.

Licensing of Private Vocational Schools. The licensing of private vocational schools has to do with the issuing to the school of a license to operate or to do business in Oregon. As earlier noted in this discussion, a wide range of private vocational schools in Oregon (as defined in ORS 345.010 and ORS 345.015) is subject to licensing under laws, rules, and regulations administered by the State Superintendent of Public Instruction. Specifically, the law says, concerning licensing of these private vocational schools by the State Superintendent of Public Instruction:

> ORS 345.030:
>
> (1) No person shall open, conduct or do business as a vocational school in this state, and no person shall act as a salesman or agent for a

> vocational school within this state without a license in good standing therefor under this chapter . . .
>
> ORS 345.040:
>
> (1) Licenses to conduct vocational schools shall be granted only to such persons as are trustworthy, competent, ethical and equipped to transact such business in such manner as to safeguard and protect the interests of the public, and only after satisfactory proof thereof has been presented to the superintendent /of public instruction/ or his representative.
>
> . . . .
>
> (4) The superintendent may recognize schools and divisions accredited by nationally recognized regional and professional accrediting agencies listed by the U. S. Office of Education for licensing purposes.

Every application for a license to conduct or do business as a vocational school within the state must be "accompanied by a bond in the sum of $2,500, executed by two good and sufficient personal sureties to be approved by the superintendent, or by a surety company authorized to transact business in this state, approved as to form and substance by the superintendent . . ."

The Superintendent of Public Instruction requires that there be submitted to his office by the applicant school a certified financial statement, a bond in the amount of $2,500, and certain materials descriptive of the nature of the program the school would propose to offer and the characteristics of the staff it is proposed shall teach in the school.

While the latter materials, relating to program and staff, are reviewed in the state superintendent's office, the principal factor considered in the licensing process is the school's financial soundness and financial responsibility as indicated by the certified financial statement and the bond. The review of the material relating to program and staff is cursory in character, and the issuance of a license to a school should not be taken as evidence that the State Department of Education approves of the program or the persons employed to teach therein.

In short, the license is in the nature of a business license which reflects primarily the financial responsibility of the school.

Certificate Based on Meeting of Minimum Standards. The purpose of the standards (referred to on pp. 201 and 203) is described by the 1965 Legislative Assembly as follows (ORS 345.320):

> The Legislative Assembly finds that private vocational schools operated in this state are capable of increasing the educational opportunities available to this state and of making a contribution to the social and economic progress of the people of this state. Private vocational schools offer different approaches to education than do public schools and are often able to provide vocational and placement assistance not otherwise available. It is the intent of the Legislative Assembly to provide for standards for the operation of private vocational schools which will strengthen them and provide protection to the students attending them and to the public generally. /Emphasis added./

The law provides that the State Superintendent of Public Instruction shall cause to be issued certificates of compliance to vocational schools which demonstrate compliance with these minimum standards, with the specific stipulation that the certificate of compliance shall not be required of any vocational school as a condition to issuance or continuance of the license, earlier referred to. Hence, the certificate of compliance with minimum standards is intended as an indication of approbation of the school's program as meeting minimum standards, whereas the license is not.

In this sense, then, the creation of the minimum standards and the issuance of certificates to those schools which meet the standards, represents some elements of an accreditation process. As the minimum standards are raised, as they conceivably may be under the stipulations in the law cited on page 201 of this document, the granting of the certificate of compliance will take on additional meaning as an evidence of quality in the programs of the proprietary schools.

Our review of the relationship of the State Department of Education to the proprietary (private vocational) schools leads us to the following views.

1. The licensing of the proprietary schools should be accomplished in such fashion as to minimize the possibility that anyone will construe the licensing as being any more than the issuance of a business license to an agency to operate or do business in Oregon. As it stands, when the proprietary schools indicate in publicity materials that they are licensed and bonded by the State Department of Education, there are many who read more into the statement than was intended. They assume that the issuance of the license by the State Department of Education signifies that the program of the school has been carefully evaluated by the State Department of Education; that the license is issued as a testament of that approval. In this misunderstanding, the proprietary schools are completely innocent. They simply have stated what is true, namely that they have been licensed by the State Department of Education. To reduce the possibility of this misunderstanding we recommend that the licensing of the proprietary schools be given to a different state agency.

2. The licensing of the proprietary schools, now a function of the State Department of Education, should be transferred to the Department of Commerce. Since the principal determinant of the schools' qualification for licensing is their financial soundness and stability, the Department of Commerce might reasonably be expected to issue licenses for operation. Unwarranted inferences are far less likely to be drawn by students and prospective students as to the true meaning of the licensing of a proprietary school if the license issues from the Department of Commerce rather than from the Department of Education.

3. The issuance of certificates of compliance to those schools meeting minimum standards should continue to be a function of the State Department of Education. We have considered the alternative of recommending the withdrawal of the State Department of Education from this function of adopting minimum standards for the proprietary schools and issuing certificates to those schools complying therewith, leaving the function to extra-legal agencies, which have played so prominent a role in accreditation of both institutions of higher education and secondary schools. But what extra-legal agencies, specifically? The Northwest Association of Secondary and Higher Schools, which serves the region in the accreditation of community colleges, the four-year institutions, and some specialized institutions, as Oregon Technical Institute, is not prepared to assume the responsibility for accrediting the wide range of vocational and technical schools with which the state department has close working relationships through the present "standards" program. It seems to us, therefore, that in the interests of promoting the upgrading of the proprietary schools, the State Department of Education should continue to work with the proprietary schools through this "standards" program. While to some it may seem strange to have the state operating in such an "accrediting" function, it is in reality little different than the responsibility the State Board of Education has for accrediting the teacher education programs in the state.

If, and as, an extra-legal agency develops which gives promise of being able to serve the accreditation function for these private vocational schools, we would recommend that the state department withdraw from this function.

We acknowledge that the present minimum standards are low. And they are more quantitative than qualitative. But they represent a beginning - a beginning not too unlike that of some other accreditation programs now well established. Initially, standards in these respected accreditation programs were largely quantitative, consisting of fairly easily measurable standards. Eventually, the quantitative standards gave way to more qualitative standards which are now applied cooperatively by the accrediting agency and the institutions in terms of the institution's own stated objectives.

As qualitative standards are developed in Oregon for the private vocational schools, they can be applied both by the schools themselves, which are being evaluated, and by an official team under the direction of the state department and including representatives of the proprietary schools, which process will serve to upgrade the proprietary schools through the same processes that have proved so successful in the accreditation programs of the Northwest Association of Secondary and Higher Schools, and similar regional accrediting associations.

4. The standards adopted for proprietary schools by the State Board of Education in December 1965, upon the recommendation of the Advisory Committee on Proprietary Schools, represent a useful first step toward accreditation.

5. Two essential next steps in the development of an accreditation program for the proprietary schools should be taken.

    a. Standards applicable to each of the specific types of vocational areas should be developed and included as an integral part of the state's "standards" program. These standards should be developed by representatives of qualified professionals in each of these fields, working with the Advisory Committee on Proprietary Schools and the State Department of Education.

    b. Sufficient staff time must be allocated to the "standards" program by the State Department of Education to insure that the standards can be creatively used as an instrument with the proprietary schools both for differentiating those schools meeting the standards from those which do not, and for upgrading the proprietary schools generally. This is not said in derogation of the efforts of those in the State Department of Education presently assigned to this function. So far as our study could determine, the staff time assigned to this function currently is being used effectively and well. But it is inadequate to the needs of the "standards" program, if that program is to become what it is capable of becoming in the upgrading of the private vocational schools of Oregon.

6. Agencies licensing proprietary schools to operate or do business in Oregon should be required to report annually to the State Department of Education the proprietary schools licensed. This is not to suggest that the state department should exercise any influence over the licensing process, but only that there should be at some one place in the state, a complete up-to-date listing of all proprietary vocational schools licensed by any state agency. The State Department of Education appears to be a logical agency in which to lodge such information.

Improving Communication Between Publicly Supported Schools and the Proprietary Schools of Oregon

7. Effective coordination of the educational planning of public post-high school educational institutions, particularly the community colleges, with the

proprietary schools demands that there be ready, easy communication between them. It was in part with the aim of stimulating such communication that the 1965 Legislative Assembly enacted the law permitting the public school administrators to enter into contract with the proprietary schools for services to students in the public institutions.

8. It is our conviction that there is not yet sufficiently ready communication between the proprietary schools and the community colleges. The lack of proper communication in the past has permitted misunderstanding and distrust to enter and to weaken the educational potential within the state. The exchange of ideas, the frank exploration of common problems, and the airing of potentially controversial matters in an atmosphere of calm and dispassionate discussion will do much to accentuate the complementary character of the offerings available in the community colleges and the proprietary schools.

9. Means must be found to open up these channels and to encourage their use. Communication must come at three levels:

   a. At the highest educational levels of the state. It is for that reason that we have recommended in Chapter XVI that the proprietary schools be given voice on the State Educational Coordinating Council where the state system institutions, independent colleges and universities, community colleges, and elementary and secondary school education already have representation.

   b. At the local institutional level. Between community college and proprietary school personnel at which locus basic decisions are made concerning curricular matters. It is at this level that will be worked out the basic decisions as to how and in what ways specific community colleges and proprietary schools may most effectively work together in offering educational programs to the people of the community with the least unnecessary and unwise duplication of programs. Much is at stake. The people of Oregon may reasonably expect that there shall be the fullest use made of these private school resources, consistent with sound educational and financial policies.

   c. At the association level. Here the representatives of the two associations - the community college association and the proprietary school association - may meet to inform one another of the character of the problems the two categories of institutions face, the steps they are taking to meet these problems, the potentialities they see for collaboration or cooperation which may be inherent in the nature of the two types of institutions, and other similar matters.

   We believe that the State Department of Education, as the agency which is charged by the state with working directly with the proprietary schools and the community colleges, should take the initiative in promoting this interaction between the two associations.

Establishing a Basis for Continuing Study of the Proprietary Schools and Their Clientele

10. Provision should be made for the annual reporting of basic, relevant information concerning the operation of the proprietary schools in Oregon (i.e., number of students enrolled in each school, number of "dropouts" from courses or programs, number of students completing courses, placement of students completing the program). At the present time, proprietary vocational schools operating in Oregon under provisions of ORS 345.010 to 345.990 are required at the time of licensing to report certain types of information concerning the school's operation (enrollment, number of students completing courses, etc.). Since the licensing of these schools is carried on throughout the year rather than as of a specific date, the enrollment and similar data reported do not cover the same periods.

These data are not, therefore, susceptible to effective use as planning data covering the full range of the proprietary schools.

What is needed is, therefore, to have reported annually by the proprietary schools as of a given date and covering a stated period of time, relevant information concerning their programs (i.e., current enrollment, number of students who withdrew without completing courses or programs, number of students completing the courses, placement data).

These data might usefully be maintained by the Oregon Association of Private Vocational Schools as a service to the proprietary schools themselves, to other educational agencies, members of the legislature, and others who would have a legitimate use for the data. We would prefer to see these data maintained by the private schools' own organization, for such an activity would, we feel, add to the status of the organization. But if it is not feasible for the proprietary schools' organization to perform this function at present, we recommend that the State Department of Education be authorized to do so.

11. If the basic data referred to above are to be maintained by the Oregon Association of Private Vocational Schools, the Association would do well to confer with the State Department of Education in the development of the forms to be used in reporting the data. If the basic data are to be maintained by the State Department of Education, we recommend that the Advisory Committee on Proprietary Schools be asked to develop the reporting instrument or instruments. To be maximally effective, a reporting system such as is recommended above should have the full concurrence and support of the proprietary schools. We believe, therefore, that the proprietary school representatives should play a key role in the development of the reporting system, including the determination of the kinds of data which would most usefully serve the desired ends.

CHAPTER VIII

Community Colleges A New Educational Resource

Nowhere is America more the Land of Opportunity than in its educational system. However, change has no conscience and today's population explosion and technological revolution might well have narrowed the opportunity for educational advancement for millions had not educational authorities, wise government planners, and civic-minded individuals and business leaders looked ahead.

Change might have closed the doors of opportunity to countless young people were it not for the development in our century of the two-year college. The two-year college is a uniquely American idea that demonstrates how our system of education can be flexibly responsive to the demands of society while recognizing the worth of the individual.

As the century opened, there were fewer than 10 such institutions, only one of them public. Today, there are over 750 two-year colleges, with more than half of them public. In 1966, they enroll more than 25 percent of all students going to college for the first time. The committee anticipates that this percentage will increase markedly in the next decade.

A New College for a New Society

All of these changes and statistics have a direct bearing on higher education in this country and on every young person's plans for the future. It has become quite clear that willingness to work is not enough for the high school graduate. Increasingly, education beyond high school is another essential for employment.

But the picture is complicated further by the demands already being made on our four-year colleges and universities. With more and more students applying for entry, and with students staying longer in order to earn advanced degrees, the colleges are hard-pressed to cope with the floods of applicants. Although there is still room in our four-year colleges and universities for the good student with purpose, these institutions simply will not be able to accommodate the millions who will be seeking entrance before this decade closes.

Fortunately, the educational leaders in this country have not been content to wring their hands over the situation. A variety of measures have been taken, including expanding college facilities, increasing scholarship aid, experimenting with new methods of teaching, and establishing branch campuses of state universities.

But the most revolutionary and exciting measure that has been taken is the expansion of the two-year college, with the extraordinary goal of putting higher education within financial and commuting reach of the entire college-age population.

To trace the streams of educational movements that have finally culminated in the comprehensive community college, one must go back to the beginnings, not only of the several varieties of junior colleges, but also of the technical institute, the area vocational school, and the general adult education movement.

The Area Vocational School and Technical Institute

During the early part of this century, people gradually accepted the idea that trade education should be carried on at public expense and that it should be available particularly for boys and girls who did not expect to go to college.

The passage of the Smith-Hughes Act of 1917, with its support of "less than college grade" vocational education, gave impetus to the development of area vocational schools of high school level and also post-high school area operations. Some states developed parallel systems of area vocational schools or technical institutes and junior colleges, while others developed the comprehensive community college or community institute that offered both vocational-terminal curricula and transfer curricula.

Adult Education Movement

The industrial revolution brought with it many changes, including a need and a desire on the part of adults not only to upgrade themselves in their vocation, but also to gain greater culture.

Adult education soon became a function of many institutions, organizations, and services. Industry and business provided educational services to their employees. Apprenticeship and related training courses assisted many to become master craftsmen. Others were served through private, proprietary, endowed, or public pre-employment vocational-technical institutes. Extension courses were offered through liberal arts colleges, as well as the agriculture and home economics extension.

The Junior College

The junior college originated out of a conflict between the early American college, the university idea imported from Germany, and the democratic American high school. The comprehensive community college has come into existence partly as a result of the established junior college taking over the responsibilities originally contemplated for the land-grant state colleges which were originally known as the "people's colleges." Two basic forces have been involved in this evolutionary process. The first was a force coming from educators to lengthen the period of secondary education, and the second was the impetus deriving from the people to extend the breadth of educational offerings in public institutions.

During the nineteenth and early twentieth centuries, the American high school gradually replaced the private academies, and the entire program was eventually accepted by the American people as a proper part of public service. However, the combined elementary school and high school only extended through 12 years, and cut off in the middle of the general or liberal arts education program. The universities, having developed around the German concept, were forced to add an extra two years of lower work to prepare graduates of the American high school to do university work. Basically, this was the dilemma in which the university found itself, and protestations of the early university presidents helped bring into existence the junior college.

National Growth

The growth since these informal beginnings has been phenomenal, and every indication is that the expansion has just begun. There were eight two-year colleges in the first years of the 1900's. Today, there are 771, with 52 of them opened in the past year (1965). Dozens are in the planning stage, with most states working to assure that such a college is within commuting range of students in all population centers. Currently, one student in four enrolling in college for the first time enrolls in a two-year college. The figures go up every year. These institutions now serve over

1,000,000 students, and the combined enrollment is increasing over 20 percent annually. Forty-five states have publicly supported two-year colleges.

Junior colleges expanded most rapidly in those states with favorable and dynamic university leadership. Widespread development began around 1915 as established junior colleges absorbed industrial and agricultural forces. During the 1920's, the post-secondary school idea was spreading through the development of a variety of private and public junior colleges.

The depression broadened the purpose of the junior college. Students remained in school because there were no job openings, and they sought post-high school education in their local communities because they lacked funds to go away to school. Industrial displacement brought back many adults for retraining.

Following World War II, many states established two-year colleges to accommodate returning veterans. Technological changes had created a need for technicians and semi-professional workers. Largely through expansion in California, the public junior college emerged as a multi-purpose institution.

Organization of Two-Year Colleges

Two-year colleges are, for the most part, organized in one of the following ways:

1. Organized, controlled, and supported at the state level.
    a. A part of the state system of higher education.
    b. A part of the university or state college, operating on a separate campus.
    c. An extension operation of the university or state college, known as two-year extension center, extension community college, university center, or university institute.
    d. A part of the state system of education.

        Area vocational schools, technical institutes, junior colleges, community colleges, community institutes.
2. Organized locally on an area basis consisting of two or more school districts or counties (in case of county unit), with a separate board of education and usually with some state financial assistance.
3. Organized as part of a public school system; locally controlled and supported. Usually share in state aid provided for other public schools. Superintendent of district is chief administrative officer.
4. Organized as an extension center with control shared between parent institution or general extension division and the local district. Financial responsibility entirely on the local district. Usually a contract between the two agencies.

Some states have had two separate systems - one for vocational schools or institutes and one for junior colleges. A good proportion of states have either developed, or are contemplating the development, of a system of public community colleges of a comprehensive nature that will include all of the functions normally expected from such an institution.

The Promise of Public Colleges

The diversity in the two-year colleges themselves underlines the different purposes served by higher education in this country.

In a democracy, the individual comes first. Americans are irrevocably committed to the principle that every individual should have the opportunity to progress as far as his interests and abilities will permit. This means that everyone who can profit from a college education should have a chance to acquire it, but it does not suggest that everyone should have the same education.

The President's Commission on Higher Education has proposed that the public two-year colleges be greatly expanded so that students everywhere will have access to them. President Kennedy underlined that thought in his 1963 Message on Education when he told Congress:

> The opportunity for a college education is severely limited for hundreds of thousands of young people because there is no college in their own community. . . . This absence of college facilities in many communities causes an unfortunate waste of some of our most promising youthful talent. A demonstrated method of meeting this particular problem effectively is the creation of two-year community colleges.

Guidance and Counseling

The two-year colleges stress guidance and counseling services. This is especially important when one recalls that most students either are uncertain of their educational objective at the outset or change their plans once or several times during their college careers. Such uncertainty is one of the reasons only half of the students entering a four-year college are graduated. Some fail as freshmen. Many drop out after two years.

And Dr. Robert Gordon Sproul, former president of the University of California, adds, "Many more might advantageously drop out if they did not have a feeling of incompleteness, of a task half done that spurs them to continue tasks that no longer interest or stimulate them."

Uncertainty about their careers prevents many high school graduates from going on to college at all, unless they go to a two-year college. We all take pride in the record 40 percent of our high school graduates who go on to college; but this means that 60 percent do not. Among that larger group are many who might be motivated to go to college if it were at hand, within financial reach, and offered guidance in choosing a lifetime career.

College Costs

Much of the data about the drawing power of the two-year college given above could just as well be under this heading of costs. Certainly, the enormous popularity of the two-year college derives to a great extent from its money-saving features.

Although not all public two-year colleges are free, as they are in California, most of them have low tuition. The big saving, however, is in room and board. The student in the public two-year college ordinarily lives at home. At the four-year college, annual cost for tuition, fees, and room and board ranges from about $750 to $2,500 or even higher. Multiply that by four for a baccalaureate degree and add another couple of years for an advanced or professional degree, and the total cost of college could range from $5,000 to $15,000. If the first two years of college are at a junior college where a student can live at home, the saving is sizable and may very well make the difference in choice of a career.

Ability

The low cost of the two-year college is obviously bringing in many high-ability students for whom money was formerly a road-block to higher education.

With an expanding economy calling for more and more highly trained men and women, the waste of high-ability students becomes something America cannot afford to continue. It is estimated that many students in the top quarter of each high school graduating class do not currently go on to college.

Because the two-year public college serves everyone, just as the public schools do, the impression sometimes is made that the two-year college is not for the able student. It is increasingly clear that this impression is mistaken.

Some of the significant findings of recent studies illustrate levels of ability among two-year college students:

> Among two-year college graduates who transfer to four-year institutions at the junior year, according to studies in California, Washington, Minnesota, and other states, the students do as well or better than comparable students who take their first two years at the four-year institution.

There are, for example, many two-year college students who want two years of higher education but not four. Among those are girls who plan an early marriage, but would like to have a two-year liberal arts education.

There are thousands of high school graduates who need training short of a four-year degree for the occupation of their choice. In the two-year college one can find courses in many fields. Some of the most popular courses are those in agriculture, business, building trades, dental and medical laboratory techniques, home economics, secretarial studies, music, physical education, drafting, physical therapy, mass communications, cosmetology, data processing, and nursing.

It is worth noting that two contradictory things often happen in the two-year college: One is that one-third of those who begin say that they intend to go on to the four-year college and do not. This is roughly comparable to the drop-outs from the four-year colleges. Second, many who enter the two-year college to learn a trade or semi-skilled profession discover their latent academic ability and go on to the four-year college.

The two-year college, then, can save the potential drop-out from the painful and more expensive failure at the college away from home, while it helps develop another student who gets a taste of higher learning and goes on for more.

Admissions

Some of those who might be refused admission to the four-year colleges are persons with ability but poor high school records. The reasons for their poor marks might be many. For instance, a student might have been sick or otherwise absent a great deal during high school and, therefore, have received low grades. He might be a "late bloomer" who didn't seem to catch on until it was too late to catch up. Or he might have been just plain lazy and realized too late that he didn't have the grades or courses to get into the college of his choice. All three can be served by the two-year college if they acquire the motivation to match their performance with their ability.

The two-year college does a great deal of remedial work, mending the holes left by a poor high school performance. A student who might never have thought of college until his senior year might very well have taken all the wrong courses for college preparation. In the two-year college, he can make up the courses he did not take in high school. Failed or missed courses can be taken during the first or second years of junior college, although, of course, this will ultimately add to the years of college if the student is planning to continue with his studies.

Transferring at the beginning of the junior year is often easier than trying to enter the four-year institution with the freshman class. Although freshman and sophomore classes at four-year colleges are usually crowded, there are often vacancies in the junior class. Junior college graduates with good records have little difficulty transferring.

Education for Women

Men have always gone to college in greater numbers than have women. The two-year college is helping to change that pattern. It is becoming clearer every year that the increasing employment of women is making a major change in the labor force. It is estimated that during the 1960's the number of women working will rise at nearly twice the rate for men. By 1970, women workers will number 30 million and will constitute one-third of the labor force. At least two out of every five women age 20-65 will be gainfully employed in 1970, says the U. S. Department of Labor.

Among two-year colleges, there is increasing provision for women. There are, of course, some private two-year colleges exclusively for them, but by far the larger number of women are enrolled in co-educational institutions. Besides two-year liberal arts education for which many enroll, girls can take many vocational courses to prepare them for employment as secretaries and other business workers, travel hostesses, cosmetologists, photographers, fashion designers, social service workers, recreation leaders, nurses, medical secretaries, and medical and dental laboratory technicians, etc.

Transfer Students

Most transfer students from public two-year colleges transfer to public four-year colleges in the same state. The two- and four-year colleges within particular states work closely together in order to prevent loss of credit on the part of transfer students. A student in an Oregon community college who chooses a major field of study approved by the State System of Higher Education will lose no time or credit if he attends a community college for his first two years and consults with a counselor about his plans. On the other hand, students with high school deficiencies, poor high school grades, and/or an interest in exploring a variety of fields before choosing a major, may best explore both their talents and interests in a community college before making a career decision.

The Development in Oregon

A great deal of study was given to post-high school education and considerable legislation was produced in Oregon during the second quarter (1925-50) of the century. But the legislation, which contained excellent philosophy, provided little money to implement the fine intentions of its sponsors. Thus, after many years of consideration, the community college movement is relatively new in Oregon.

In February 1938, the first area vocational school in Oregon was formed at Eugene. The Oregon Vocational School (later Oregon Technical Institute) started in 1947, and Oregon City Vocational School opened in 1949. These three schools were the only organized vocational schools of a public nature designed to serve Oregon post-high school youth during the first half of the twentieth century.

Legislative Beginnings

In 1927, Senator Roberts of The Dalles introduced a bill providing for the establishment of junior colleges. The provisions of the bill divided the state into 13 junior college districts. A vote of the people was necessary before a junior college could be established in any of the proposed districts. This bill was not satisfactory to all members of the educational committee, but went before the legislature, which failed to pass it.

The Roberts Bill (House Bill 124 - 1927) utilized an approach, typical of such legislation throughout the early period, that the support for the junior colleges was to come entirely from the local tax area. Although all monies collected were to be deposited with the State Treasurer and the faculty and other costs paid on state warrants from such monies, the state as such was not expected to contribute. Tuition was not to be charged, causing the entire cost to be carried by the counties within an area district.

The Dunn Bill

Dr. John Francis Cramer, dean of the General Extension Division, working with Senator Dunn of Baker, Oregon, developed Senate Bill No. 29, which was enacted by the assembly in 1949. This bill was permissive in nature and contained no state money to implement development of "extension centers" or "community colleges."

Three community colleges were set up under the provisions of the "Dunn" bill. Baker, Bend, and Klamath Falls opened in the fall of 1949, with the districts providing all the money, after tuition had been applied against expenses, plus ten percent for overhead and retirement payments. The State Board of Higher Education contracted the faculty through the services of the General Extension Division and maintained general supervision over the program.

The program at Baker, Oregon, closed after one term of operation. The Klamath Falls center closed after the first year of operation, and the Bend center employed the three instructors, who had been working for both the Klamath Falls and Bend centers, on a full-time basis as resident staff. In neither center was there a substantial core of full-time students.

The Koos Report

The 1949 legislature also established an Interim Committee on Post-High School Educational Facilities. This committee invited Dr. Leonard V. Koos, nationally recognized figure in junior college organization, to make a study of post-high school educational facilities in Oregon.

Koos was identified with the "extended" high school (thirteenth and fourteenth grade concept) and also the 6-4-4 plan of administrative arrangement, both integral parts of a unified school system. Koos saw such community colleges as being staffed by high school instructors extending their services upward for two years.

Although Koos emphasized the advantages of the "integrated" type of community college, he did state that in certain areas advantages might be gained from consolidation of districts. Twenty-six districts were identified as potential community college centers.

The Junior College Bill

Following the Koos Report, the Interim Committee presented their findings and recommendations to the 1951 Legislative Assembly. The result was passage of Senate Bill No. 143, known as the "Junior College" bill. Several things differed from the report's recommendations: (1) The colleges were not to be tuition free, but could charge students up to a maximum of $150 tuition per year for a local resident and up to $350 for a nonresident. (2) There was no provision in the law for consolidation of districts. (3) Instead of placing the overhead control in the hands of a "Liaison Community-College Committee," consisting of five members with two members selected from the State Board of Higher Education, two members from the State Board of Education, and one to be appointed by the Governor from a list of three selected by the first four named, the bill placed the junior colleges under the State Board of Education. (4) Koos' rather involved, but reasonably realistic, plan for state aid was not included in the bill. The colleges were eligible for state aid on the same basis as the public elementary and secondary schools.

Despite certain merit, the law was never used until amended in 1957.

The Joint Boards' Report

Oregon's only junior college (at Bend) had operated under the provisions of the "Dunn" bill. The Board of Education, District No. 1, Bend, entered into a contract, each year, with the General Extension Division to provide a program of "lower division collegiate grade classes" in the school district.

A group of interested persons from central Oregon succeeded in having introduced, into the 1955 Oregon Legislative Assembly, House Bill No. 396. This bill was an attempt to secure state aid for community colleges operating within the framework of the "Dunn" bill. The bill, introduced by Representative Armond, passed the House with approximately a 3-to-1 vote, but was allowed to die in the senate education committee.

On September 20, 1955, in joint session with the State Board of Education, the new Chancellor of the State System of Higher Education, Dr. John R. Richards, suggested that "perhaps the two boards would want to have their executive officers set up a joint study committee of experts to arrive at a new conclusion, if indicated . . ."

Appointed were five superintendents of first-class public school districts, one college dean, one professor of education, two presidents of private colleges, one president of a public teachers' college, the Chancellor, the State Superintendent of Public Instruction, the Director of Secondary Education for the State Department of Education, and the Dean of the General Extension Division.

After a year of deliberation, the committee recommended:

1. That if junior colleges are established in Oregon, they be an extension of the public school system. That such junior colleges be administered and financed by the local school districts with supplementary funds supplied from the state level.

2. That the junior colleges established in Oregon provide curricula according to the needs and the demands of the community. That the offerings include technical and terminal work, college transfer work for the junior college students who ordinarily continue their education in a senior college, and an adult education program.

3. That the junior college law be amended to permit the organization of additional school districts for junior college purposes only. That these districts be patterned somewhat after the present union high school district.

4. That the junior college law be amended to enable school districts operating junior colleges, in which are enrolled students who are residents of Oregon but not of a district maintaining a junior college, to charge back to the school district in which such students maintain legal residence the difference between the per capita cost of operating the junior college and the tuition received from the student. That school districts be authorized to include in their annual budgets a sum sufficient to meet such charges.

The Community College Law

Following the release of the Report of the 1956 Joint Committee to Study Junior Colleges, interested legislators wrote a bill to implement the Report of the Joint

Committee. This activity resulted in House Bill No. 594 being introduced into the 49th Legislative Assembly, 1957, by Representatives Grubb and Grenfell and Senator Overhulse and others. This bill, after some amending, passed both houses and became law following the session.

The major changes were: state aid of $150 per each full-time student equivalent per year, permissive legislation for formation of community college districts, a permissive charge-back arrangement for out-of-district students, and a change of name to "community college" with emphasis on the more comprehensive type program.

The "Dunn" bill had been repealed and its provisions incorporated into the new "Community College" law. Although the new law provided a means of developing a community college district, such a district would have to be formed through consolidation of existing school districts for college purposes only. Each district included in the proposed college district would vote separately, and whether they entered the district or not would depend upon their own vote.

On the subject of finance, the committee recommended the operational costs be divided three ways, with the state paying one-third, local district one-third, and the student one-third.

The Flesher Report

The 1957 Legislature also authorized the State Board of Education to conduct a survey on vocational-technical education in Oregon. The board employed Dr. W. R. Flesher, Bureau of Educational Research and Service of the Ohio State University, to act as director of a survey staff of eight professional specialists in the area of vocational-technical education.

Flesher recommended a state-wide system of seven "educational centers" which would provide programs in vocational education, junior or community college type programs, and general adult education type programs. These "education center districts" would be administrative districts and might operate several institutions and/or extension programs out of any or all of the centers within an "education center district." Certain of Flesher's concepts found expression in Senate Bill 260 of the 50th Legislative Assembly (1959).

Senate Bill 260

The 1958 Interim Committee on Education implemented its report to the legislature on community colleges by preparing and introducing Senate Bill No. 162. The bill did not get out of the education committee; however, practically all of its provisions were added to Senate Bill 260.

Senate Bill 260 followed very closely the general provisions of the "Community College" law with certain exceptions. These exceptions were: (1) a broader concept regarding curriculum, (2) the area education district principle replaced legislatively-determined boundaries, and (3) state aid was provided up to $200 per full-time equivalent student, or one-third of the operational cost, whichever was less. Buildings were considered a local problem.

The amended bill passed both houses with a near unanimous vote.

Legislation in the 1960's

Much study and legislation over a twenty-year period had produced only one community college (Bend) in Oregon. The 1961 legislature came to grasp with the underlying problem and provided substantial state financial assistance for operation and building construction. While the legislature amended many provisions of the 1959 statute, its major contribution was to provide up to $433 per full-time equated student for operating expenses and $850,000 for the start of construction of community college facilities. It was this incentive that primarily resulted in the establishment of four community colleges (Clatsop, Portland, Salem, and Southwestern) in 1961 and two institutions (Blue Mountain and Treasure Valley) in 1962.

The 1963 Legislature concerned itself with modifying and refining the 1961 statute. It provided that the local operating district must contribute at least 15 percent of the operating costs and reduced the state's level of participation in facility construction from 75 percent to 65 percent. The amount appropriated for capital construction, however, was increased to $1,350,000.

Two major enactments of the 1965 legislature provided new stimulus to community college development in Oregon. Senate Bill 34 permitted the distribution of federal vocational funds as a supplement to state funds for reimbursement of vocational education. A substantial increase in funds available for capital construction resulted from an appropriation of $4,500,000 for the biennium. Senate Joint Resolution 5 set forth legislative guidelines for the continuing development of the state's community college program. Renewed effort following this legislation resulted in the establishment of four community colleges: Lane, Umpqua, Mt. Hood, and Clackamas. At the year's end, community college proposals were being studied in Linn-Benton counties, the Mid-Columbia area, and Washington county (see Figure XXI, p. 219).

Under the supervision of the State Department of Education, eleven community colleges now exist. The institutions and their locations are:

	Institution	Location	Type of Organization
1.	Blue Mountain Community College	Pendleton	AED
2.	Central Oregon College	Bend	AED
3.	Clackamas Community College	Oregon City	AED
4.	Clatsop Community College	Astoria	AED
5.	Lane Community College	Eugene	AED
6.	Mt. Hood Community College	Gresham	AED
7.	Portland Community College	Portland	SD
8.	Salem Technical Vocational Community College	Salem	SD
9.	Southwestern Oregon Community College	Coos Bay	AED
10.	Treasure Valley Community College	Ontario	AED
11.	Umpqua Community College	Roseburg	AED

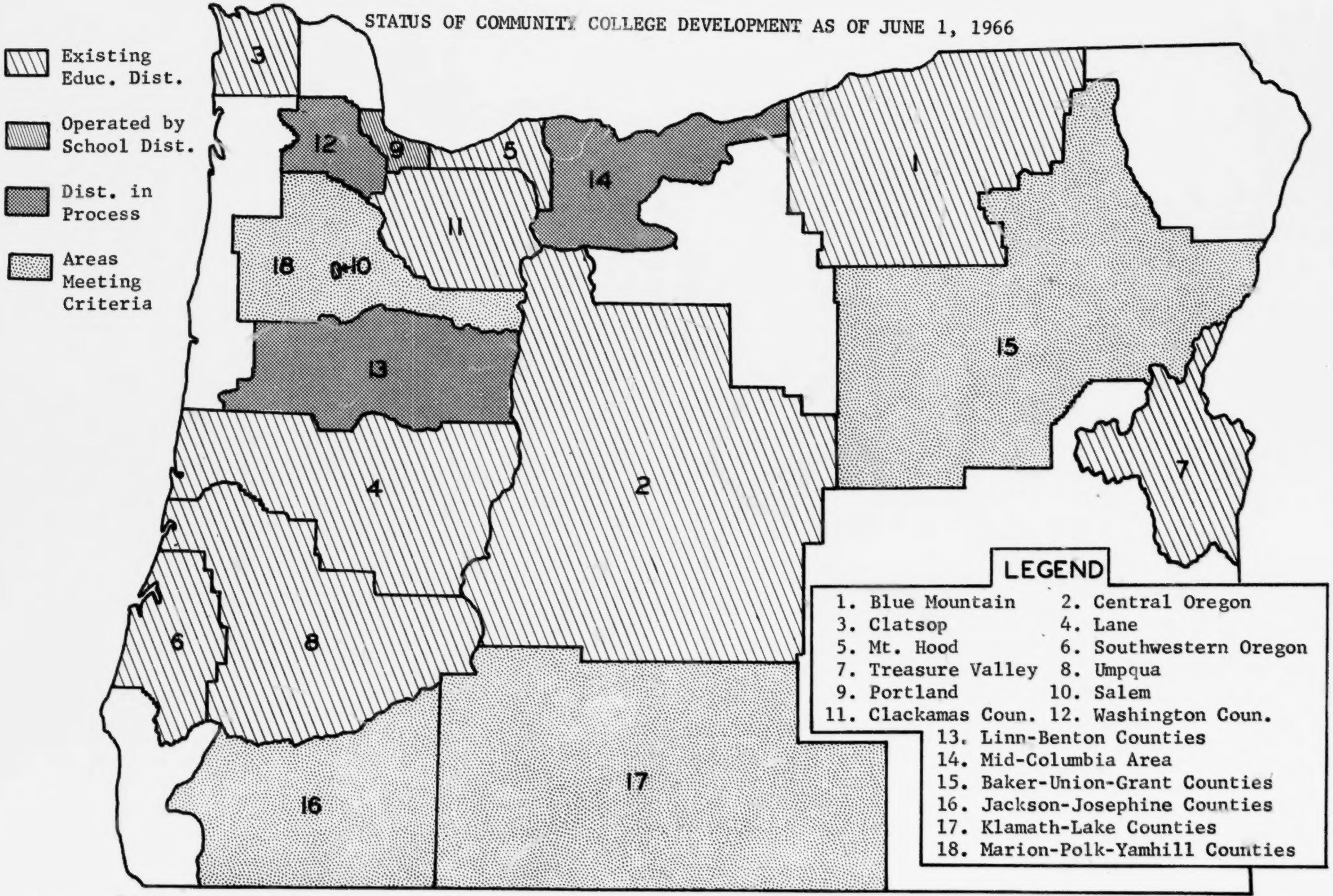
Nine of these institutions offered classes in 1965-66. All of these, except Salem, offer vocational-technical, lower division collegiate, and adult education programs. Salem currently offers only vocational-technical courses. Clackamas and Mt. Hood will enroll students beginning September 1966 in limited classes in all three programs. The nine colleges indicated by the symbol "AED" are organized under area education districts created for the specific purpose of operating a community college. The two colleges indicated as "SD" operate under the public school districts of those cities, a type of community college operation that no longer may be created. Portland and Salem, however, may continue this type of organization or may change to an area education district, providing they comply with the legal provisions.

Three additional area education districts are now in various stages of formation:

	Proposed District	Present Status
12.	Washington county	Being restudied
13.	Linn-Benton counties	Awaiting court decision on boundaries
14.	Mid-Columbia (Parts of Hood River, Wasco, Sherman, and Gilliam counties)	Awaiting court decision on boundaries

FIGURE XXI

STATUS OF COMMUNITY COLLEGE DEVELOPMENT AS OF JUNE 1, 1966


▨ Existing Educ. Dist.
▨ Operated by School Dist.
▨ Dist. in Process
▨ Areas Meeting Criteria
3
12
9
5
14
1
11
18
10
15
13
4
2
7
6
8
16
17
LEGEND
1. Blue Mountain
2. Central Oregon
3. Clatsop
4. Lane
5. Mt. Hood
6. Southwestern Oregon
7. Treasure Valley
8. Umpqua
9. Portland
10. Salem
11. Clackamas Coun.
12. Washington Coun.
13. Linn-Benton Counties
14. Mid-Columbia Area
15. Baker-Union-Grant Counties
16. Jackson-Josephine Counties
17. Klamath-Lake Counties
18. Marion-Polk-Yamhill Counties

Source: State Department of Education.

Both the proposed Linn-Benton and Mid-Columbia areas are temporarily enjoined by legal action concerning boundaries. Elections in these areas will be held after court settlements. The Washington County Area Education District was narrowly defeated in 1965. Proponents there are now considering plans to resubmit this proposal.

Areas currently meeting existing criteria but in which no final steps have been taken at this time to establish an area education district are:

15. Baker-Union counties
16. Jackson-Josephine counties
17. Klamath-Lake counties
18. Marion-Polk-Yamhill counties

While Salem Technical Vocational Community College is located in Marion county, it does not offer lower-division collegiate courses. The college is operated by the Salem School Board and is under no legal obligation to serve students who live outside that district. The other areas cited are not now served by any other community college.

Location

Primary responsibility for the establishment of new community colleges and new area education districts rests with the residents of areas that qualify under existing legal provisions:

1. The residents of the geographical area concerned are not, in the opinion of the State Board of Education, adequately served by an existing community college or private school.

2. The enrollment in grades 9 to 12 is at least 1,500 pupils in the geographical area to be served.

3. Adequate building space, library, and suitable laboratory or shop space for the courses to be offered are available or will be available before classes begin.

Recommendations

1. That community colleges continue to be located within effective commuting time of a substantial majority of students, with the ultimate goal being the availability on a commuting basis of these institutions to all persons who can benefit by their services.

   The development of community colleges within areas meeting statutory criteria would bring community college educational opportunities within commuting distance of 85 percent of the population of the state.

2. That community college services in the greater Portland metropolitan area be organized as a single area education district.

   Three community colleges now exist to serve the areas of Multnomah, Clackamas, and Washington counties, generally referred to as the greater Portland metropolitan area. Portland Community College, operated by School District No. 1, serves the residents of that school district. Mt. Hood Community College, operated by the East Side Area Education District, serves the remainder of Multnomah county and portions of Clackamas and Hood River counties. The newly organized Clackamas Area Education District will serve the major portion of Clackamas county. The proposed Washington County Area Education District was defeated in 1965 and formation efforts are again being initiated. The multiplicity of administrative districts offering essentially the same educational services to residents of what is becoming a single community could, without the highest degree of coordination, result in less than efficient educational services. In 1962, the State Board of Education conducted a study of the area and recommended the formation of what was then designated a "Tri-County Area Education District."

However, under existing law, the State Board of Education has not been given the authority to deny a petition for an area education district providing the proposal meets legal criteria nor can the state board or any other agency call an election for the establishment of a district unless petitions meeting legal requirements have been filed.

This committee has reviewed five possible plans for the organization of community college services in the area:

a. Four separate district plans.
b. Combinations of outlying areas with Portland remaining independent.
c. Combination of Portland with the outlying areas.
d. Annexation of outlying areas to Portland School District No. 1.
e. A tri-county district.

It is the conclusion of the committee that community college educational programs could most effectively and efficiently be offered residents of the area by formation of a Tri-County Area Education District. This would involve assumption of the present East Side and Clackamas area education districts, relinquishment of its community college program by the Portland school district, and incorporation of Washington county and the Lake Oswego areas into the larger administrative unit.

3. That an area education district be formed in Marion-Polk-Yamhill county areas at the earliest possible date, and that the existing Salem Technical Vocational Community College serve as the institutional base for an expanded community college program.

In May 1962, a study committee, comprised of administrators of high schools in Marion, Polk, and north Linn counties and State Department of Education personnel, completed a study of the need for post-high school education and educational opportunities in the area. The study concluded, (1) that a comprehensive community college should be established, (2) that the existing Salem vocational school should be the institutional base for expansion, and (3) that such an institution would enroll 3,250 FTE students by 1974-75. However, to the present, no such district has been established. The Salem technical vocational school has expanded its vocational offerings but has taken no steps toward adding lower-division or adult-education courses. The school, renamed Salem Technical Vocational Community College, continues to be operated by Salem School District 24-J and, as such, is part of the school district's tax base. While two moderate-sized buildings have been constructed, they are overcrowded and little room exists for students from the remainder of Marion and Polk counties. As a result, enrollment has reached only 607 FTE, a substantially lower enrollment than had initially been projected for that year.

4. That area education districts be formed as early as possible to offer community college services in Klamath-Lake counties and Jackson-Josephine counties.

The committee recognizes the need for a comprehensive community college educational program in these areas. The resources of Oregon Technical Institute in Klamath Falls and Southern Oregon College in Ashland meet the needs of a part, but not all, of such a program. With the formation of area education districts in these areas, the possibility of providing a comprehensive program is enhanced.

The alternatives are as follows: (1) to establish separate comprehensive community colleges, (2) to establish specialized community colleges and contract with existing colleges for additional services. Decision as to the alternatives should be made by the residents of the districts after further study of the advantages and disadvantages of each.

5. **That a separate area education district not be formed in the Union-Baker-Wallowa area.**

   While the area meets existing criteria as to population, high school enrollment, and assessed valuation, dispersal of population and distances involved indicate that an efficient community college operation would not be forthcoming from a separate district. Subject to further study, the committee feels that the western part of the area should consider joining with the existing Blue Mountain Community College District and the eastern part of the area combining with the existing Treasure Valley Community College District.

6. **That the State Board of Education conduct studies as to the best means of providing community college educational opportunities to those areas of the state not meeting legal criteria for area education district formation.**

   Counties such as Tillamook, Lincoln, Curry, and Columbia, while not meeting statutory provisions for area education district formation, nevertheless contain sufficient numbers of youth and adults who stand in need of community college services. An analysis of these educational needs and the most effective way of meeting them should be made by the State Board of Education in cooperation with local education authorities.

7. That the legislature be guided by the recommendations of the State Board of Education and the advice of the Educational Coordinating Council as to the establishment of additional community colleges.

   The usefulness and generally accurate predictive qualities of "A Plan for the 60's" indicate the desirability of long-range planning carried forward on a statewide basis by the State Board of Education, subject to guidelines now contained in the law or hereinafter enacted. The establishment of new community colleges should proceed only in accordance with recommendations of the State Board of Education and with the advice of the Educational Coordinating Council. To insure an orderly growth and development of community colleges, additional institutions should be established only on the basis of justification and need as determined by the State Board of Education and with the advice of the Educational Coordinating Council.

Organization and Administration

Recommendations:

1. That community colleges be recognized as an integral part of public education in Oregon.

2. **That the area education district be the legal entity for the operation of the community colleges in Oregon and that each such district be governed by its own board.**

   The desirability of having a board of control that is concerned solely with the needs and problems of the community college is subject to little challenge. Nine such area education districts are now responsible for the community college program in their respective areas. The 1965 Legislature enacted provisions prohibiting local school districts from organizing community colleges.

However, two school districts, Portland and Salem, were permitted to continue to operate such institutions or to change to an area education format. The committee believes that a more effective community college program could be developed in the Portland and Salem areas if steps were taken to organize area education districts which would assume control of the community colleges now operated by those respective school districts.

3. That local community college boards continue to be under the general supervision of the State Board of Education.

   The State Board of Education plays a significant role in the allocation of state funds in support of community college building projects. The board is required by law to receive from the applicant district a long-range plan for the development of the college, and is required to determine the priorities in the allocation of funds among districts.

   State reimbursement for community college courses is made upon the certification of the State Superintendent of Public Instruction to the Secretary of State. No reimbursement is allowable for any course taught which was not approved in advance by the State Superintendent's office. It is at this point that the law provides for liaison between the State Board of Education and the State Board of Higher Education in the approval of community college courses and instructors.

4. That until the community college is accredited by the Northwest Association of Secondary and Higher Schools, the lower division and college transfer courses the college wishes to offer, and the instructors it proposes to employ to offer these courses, require approval of the State Board of Higher Education, as well as the State Department of Education.

   Request for approval of these courses and instructors is made to the State Board of Higher Education through the State Department of Education. The latter's certification of the college transfer courses for reimbursement is based upon their approval by the State Board of Higher Education.

5. That the State Board of Education have responsibility for developing enforceable policies related to the following functions:

   a. The number and location of community colleges.

   b. Establishment of minimum standards for curriculum, physical plants, library resources, teacher qualifications, tuition and fees, financial administration, and certificates and degrees.

   c. Distribution of funds appropriated by the state legislature and the federal government for community college operation.

   d. The proposed capital construction projects for which legislative appropriations and federal funds are available and for the distribution of such funds.

6. That the State Board of Education carry on a continuing analysis of the state's community college program and issue annual reports of their recommendations for change as indicated by such findings.

7. That the State Board of Education prepare and present to each session of the legislature a current, up-to-date plan for the continuing development of community colleges.

   The plan should take into consideration the obligation of the state to develop a system of post-high school education offering adequate opportunities for all citizens of the state insofar as practicable. The plan should show an awareness of the locations of the public and independent institutions of higher education and the locations and course offerings of private vocational/technical schools. The board should include in the plan recommendations as to the number, location, and timetable of development of both comprehensive community colleges and institutions offering only specialized curricula.

8. That proposed community colleges meet the criteria established by statute and State Board of Education regulations.

   A community college should be established only after a thorough study of the educational needs of that area has been made. The State Board of Education must be assured that the people in a proposed community college district are willing and able to assume the responsibility for providing the resources needed for adequate educational and service programs within a clearly demonstrated understanding of the special nature and function of the community college.

9. That the State Board of Education's approval of course offerings and capital construction projects be required only if the state is participating in any portion of the cost.

   Should a community desire to expand its instructional or building program at a faster rate than available state funds permit, and should it provide for this expansion entirely out of resources other than those provided by the state or federal government, approval of the State Board of Education should not be required for that expansion so provided, nor should the local district be penalized in future state allocation of funds for having assumed the responsibility.

Capital Construction

Four major factors are involved in community college capital construction planning: site, site improvement, facilities, and equipment. A satisfactory building program for the average community college will be determined by the nature of the educational programs offered. Under the current law, the state will pay up to 65 percent of approved construction costs, including equipment. It should be noted, however, that due to space and dollar limitation within the current reimbursement formula and limited legislative appropriations, the State Board of Education has been forced to prorate available funds. Short-term policy created for the purpose of prorating does not provide for efficient capital construction and so increases the total project costs. Although statutes provide that the state will pay up to 65 percent of the approved capital project costs, prorating of available state funds during the 1961-65 period resulted in the state's share of community college construction falling to 51 percent in 1961-63 and to 37.5 percent in 1963-65.

The 1965 Ways and Means Committee indicated that the system of prorating should be discontinued, and that projects should be funded at the 65 percent level. The amount of funds ($4,500,000) appropriated, however, was insufficient to meet the existing needs. As a result the State Board of Education adopted a policy that would fund projects on a "first come, first served" basis at the 65 percent level as far as the money went, leaving other projects unfunded. The board also directed that revisions in the existing law be prepared for recommendation to the next legislature in order that appropriations, law, and intent could be reconciled.

The current basis for state capital construction assistance was arbitrarily determined in 1961. It was based largely upon high school and junior college construction in the Pacific Northwest during the previous three-year period. This formula, based upon a construction cost of $15 per square foot and $275 for equipment, established a rate of $2,000 per student station, of which the state will reimburse 65 percent or $1,300. State funds are not available for site acquisition, site development, spectator sport facilities, or the construction of student personnel service areas such as cafeterias, student centers, and bookstores.

Capital construction completed for Oregon community colleges prior to July 1, 1966, totaling $5,345,196, is shown in Table 44, p.226.

Recommendations:

1. That in determining construction dollar eligibility, total projected FTE students three years subsequent to the appropriation be used as the basis until an institution has built 65 percent of its student station eligibility.

   Presently one-third of the FTE students projected are considered to be evening students and a corresponding reduction is made before determining construction fund eligibility. There is no empirical basis for this assumption. Beginning institutions cannot achieve the degree of utilization that may be realized later in their development and the day-evening student relationship varies from institution to institution. Reductions in eligibility for evening use of facilities should be determined at a point when the institution's program has become stablized, not at the beginning of construction.

2. That when an institution has constructed facilities for 65 percent of its projected FTE enrollment, the basis for determination of further state construction funds change from a student-dollar eligibility formula to a project-approval determination.

   Submission and approval of project plans would occur prior to the beginning of the biennium for which sought. The approval procedure for such planned projects would include utilization studies of existing facilities in the institution, including day-night student ratio. The net effect of the above recommendations would grant a starting institution full credit for FTE students at the beginning when plant utilization cannot be as efficient, and then require increasingly efficient plant utilization after the community college enrolls 65 percent of its potential FTE students.

3. That on-site development costs be contained as an allowance in the determination of the state student-dollar construction fund formula.

   Such cost is incurred by all institutions in campus development. Typical site development costs are sidewalks, exterior lighting, parking lots, sewer runs on-site, underground electrical service on-site, on-site water and irrigation lines, service roads, and landscaping. These costs are allowable under federal fund construction grants. When local-state-federal funds are utilized, it is difficult to charge federal funds accurately if the state formula has required exclusions. To fail to allow state participation in such costs distorts the statutory relationship expressed between state and local funds.

4. For construction during the 1967-1969 biennium, the state level per FTE student be revised to 65 percent of $3,420 for the first 2,000 FTE students, and 65 percent of $2,450 for each FTE student over 2,000.

   These amounts are based upon 140 square feet of plant space per student for the first 2,000 FTE students and 100 square feet per student over 2,000 FTE students at the rate of $18.50 per square foot. The amount thus derived is increased by an additional 32 percent to account for 6 percent planning fees, 6 percent on-site development costs, and 20 percent equipment costs. In the accompanying report, justification has been given to substantiate that these student FTE allowances reflect current construction costs.

TABLE 44

OREGON COMMUNITY COLLEGE
PHYSICAL PLANT CONSTRUCTION 1961-1966

Community College 1	Site Size Acres 2	Type Building 3	Year Com-pleted 4	Teaching Stations 5	Size in Square Feet 6	Total Project Cost (Equipped) 7
Blue Mountain	175					
Building I		Composite	1965	21	37,800	$ 890,691
Central Oregon	145					
Classroom B		Classroom	1964	5	4,864)	370,649
Classroom C		Lab.	1964	4	4,864)	
Classroom D		Lab.	1964	2	4,864)	
Classroom A		Classroom	1964	4	4,864)	257,165
Business & Admin.		Classroom Admin.	1965	5	7,595)	
Library		Library	1966[b]	0	17,136	310,656[b]
Student Center		Service	1965	0	12,000	281,194
Clatsop	41					
Old High School		Composite	1962 (Reim.)	17	70,250))	443,488
Technology		Shops	1962	3	3,600)	
Salem	20[a]					
Building I		Composite	1963	22	31,000)	1,079,000
Building II		Labs.	1963	5	5,500)	
Additions I & II		Shops	1965	6	5,700)	
Southwestern Oregon	125					
Laboratory Bldg.		Shops	1964	5	9,600)	334,760
Technical		Labs.	1964	6	11,200)	
Administration		Admin.	1965	2	8,400)	709,672
Science		Labs.	1965	6	9,800)	
Classroom		Classroom	1965	12	9,600)	
Treasure Valley	90		Not)			
Golf Club House		Library	Stated)	0	4,000	Gift
Voc-Tech.		Shops	1965	2	10,700)	676,921
Classroom		Composite	1965	10	22,000)	

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[a] An option exists to add one tract of land and a second tract is under negotiation.
[b] Under construction; completion date and project costs are estimates.
Source: State Department of Education.

5. **That 90 percent of federal funds applied against the construction of student stations for Oregon residents be deducted from the total project costs first, and that the remainder of the project costs be funded from 65 percent state and 35 percent local sources.**

Federal funds available for community college construction under the Higher Education Facilities Act are limited to not more than 40 percent of the total project cost. Funds available under the Federal Vocational Education Act of 1963 are limited to not more than 50 percent of project costs. The 10 percent of federal funds not charged against the state's dollar formula for construction of a student station should be granted to the institution in recognition of the cost of securing federal construction funds and as an incentive to the institution to seek such funds in order to reduce state and local capital fund obligation. In the event federal appropriations are received after state appropriations, correction should be made in the state appropriation to maintain the desired relationship.

6. That prior federal construction funds not be charged against an institution's future state fund eligibility.

To make such a charge-back would serve to reduce the state's contribution below the 65 percent level and to increase the local contribution above the 35 percent level. The intent of federal funds for construction is clearly to increase the enrollment capacity of colleges by supplementing local-state effort. A reduction of state fund eligibility based upon an institution's receipt of federal construction funds would not act as a supplement, but would hold enrollment capacity to the plant that could be constructed with local and state funds alone. The principle of applying appropriate federal funds as a supplement to state and local effort has been approved by the legislature in providing that federal vocational funds may not be used to reduce the state's rate of reimbursement. The same principle should be extended to construction funds.

7. That the level of state support for construction be reviewed and revised biennially to reflect the increased costs.

The ten-year building cost projection contained in this report has been conservatively based upon a premise that construction costs will rise 2 percent annually. The application of this rate for the first 2,000 FTE students is: 1967-1969, $3,420 per FTE; 1969-1971, $3,560 per FTE; 1971-1973, $3,700 per FTE; and 1973-1975, $3,850 per FTE. For over 2,000 students, the increased construction cost rate is: 1967-1969, $2,450 per FTE; 1969-1971, $2,550 per FTE; 1971-1973, $2,650 per FTE; and 1973-1975, $2,750 per FTE. The state's share of the above amounts would be 65 percent inasmuch as the total per student cost is reported. Such share would also be reduced proportionately by first applying federal funds.

8. That no state capital construction funds be made available to community colleges not in being at the time such funds are appropriated by the legislature.

The method of creating new community colleges by popular vote, while desirable, makes presentation to the legislature of an accurate picture of construction needs difficult in any biennium. Sound educational planning would dictate that the greater portion of two years be spent in developing specifications for construction at a new college in any event. The new college could nevertheless operate a limited program in leased facilities while awaiting construction funds in the subsequent biennium.

9. **That a full-time position be established within the State Department of Education to administer the community college construction program.**

> This program involves over $6,500,000 of state and federal funds in the current biennium. Projected needs would double the amount in the 1967-1969 biennium. Coupled with local funds, the resulting program is of such magnitude that the state cannot afford not to provide sufficient staff time to give the necessary oversight to the program to insure efficient use of the funds.

Estimates of state funds which will be required for community college capital construction during the next four bienniums, 1967-1969 through 1973-1975, under the support formula herein recommended, are shown in Table 45. Needs are estimated greatest for the 1967-1969 biennium because of backlog of unmet requirements, unusually large enrollment increases, and a more realistic dollar-space formula.

TABLE 45

SUMMARY OF COMMUNITY COLLEGE CAPITAL OUTLAY
BIENNIUMS 1967-1969 THROUGH 1973-1975

Biennium	Adjusted Total Facility Cost[1]	Anticipated Federal Funds	Local Funds Required	State Funds Required
1	2	3	4	5
Existing Institutions				
1967-1969	$24,253,880	$2,104,294	$ 6,729,435	$12,497,521
1969-1971	8,699,155	2,471,153	2,179,801	4,048,201
1971-1973	5,970,775	2,965,383	1,051,887	1,953,505
1973-1975	3,587,050	3,558,460	10,007	18,583
New Institutions				
1967-1969	13,132,760	1,402,862	4,105,464	7,624,434
1969-1971	6,181,520	1,647,435	1,586,930	2,947,155
1971-1973	5,963,650	1,976,922	1,395,355	2,591,373
1973-1975	3,347,350	2,372,306	341,266	633,778
All Institutions				
1967-1969	37,386,640	3,507,156	10,834,899	20,121,955
1969-1971	14,880,675	4,118,588	3,766,731	6,995,356
1971-1973	11,934,425	4,942,305	2,447,242	4,544,878
1973-1975	6,934,400	5,930,766	351,273	652,361

[1] Figures for succeeding bienniums have been adjusted to reflect anticipated increases in construction costs.

Source: Oregon State Department of Education, February, 1966.

Operations

The FTE cost of education, as computed for community colleges, is the total operating costs of an institution divided by its total FTE student enrollment. Table 46 lists the FTE operating costs in the nine institutions operating under community college law in 1964-65. Relatively low student-teacher ratios due to the newness of the program in most community colleges in Oregon have resulted in higher FTE costs within those institutions, but the average state-wide FTE cost was only $773 per FTE for all programs in 1964-65. As indicated in Table 46, there was a variation in these costs, ranging from a high of $1,266 at Southwestern Oregon to $536 at Eugene Technical-Vocational School (now Lane Community College).

TABLE 46

UNIT EDUCATION COSTS IN 1964-65

Institution 1	Total Institutional Adjusted FTE 2	Reimbursable FTE 3	Total Operating Costs 4	Operating Cost Per FTE 5	Net Operating Cost/FTE 6	State & Federal Support/FTE 7
Blue Mountain	419.6	414.6	$ 390,344	$ 930	$692	$433
Central Oregon	430.6	419.6	466,902	1,038	716	433
Clatsop	334.6	334.0	362,420	1,083	873	433
Lane	607.0	563.2	325,237	536	417	355
Oregon City	121.3	54.3	45,067	372	244	207
Portland	1,712.3	1,429.5	1,030,346	602	465	395
Salem	453.3	453.3	318,824	703	495	421
Southwestern	484.1	478.4	612,913	1,266	975	433
Treasure Valley	434.0	379.1	310,209	715	463	393
Umpqua	158.7	152.6	145,472	917	573	433
TOTAL	5,155.5	4,678.6	$3,987,734	$ 773	$574	$405

Column 6, Net Operating Cost/FTE, equals operating cost per FTE minus tuition and fees.
Source: State Department of Education.

The 1963 community college law provided state reimbursement for community colleges and education centers at the rate of two-thirds of the institutional unit cost of education to a maximum of $650 per FTE. Beginning July 1, 1964, the state reimbursement rate changed to 85 percent of the difference between operating expenses and the amount received from tuition and fees, or two-thirds of the unit cost up to a maximum of $433 per FTE, whichever was lesser. During 1964-65, therefore, institutions were reimbursed according to this new formula.

Regardless of the unit cost of education of any institution, in no case did the state reimburse an institution at a rate higher than $433 per FTE, inclusive of federal funds for vocational-technical education. If an area education district operated a program at a cost in excess of $650 per FTE, that district had to pay 100 percent of the amount above that figure. Table 46 indicates that the $650 cut-off was far below the average state-wide unit cost of $773 per FTE. Although $650 per FTE may have been an equitable operating cost base, it becomes inequitable when applied as the base to both lower-division collegiate and vocational-technical programs alike. The high unit cost of vocational-technical education in community colleges does not serve to encourage local boards of directors to initiate the more costly vocational-technical programs.

As previously cited, the 1965 Legislature enacted legislation providing that all appropriate federal vocational-technical funds must be applied as a supplement to the state reimbursement of $433 per FTE. Under the new formula, effective July 1, 1965, community colleges will receive supplemental reimbursement for enrollment in vocational-technical programs of up to $330 per FTE. This action will significantly reduce the cost differential of vocational programs that previously has been borne by the local district, although it will not reduce the local share of the lower division program.

The wide range of operating costs reflects the inherent conditions of local control. Community college operating budgets must be reviewed by a budget committee and approved at a special election. Consequently, it is the voters of the district who finally decide the rate at which they will support the local community college program. The decision of voters in certain districts to support programs at a level up to 100 percent higher than those in other districts is a determination which they make. While it is felt that an effective community college program can be operated for $780 per lower-division collegiate FTE and $1,230 per vocational FTE, the various stages of development in which Oregon community colleges find themselves will affect their operating costs. However, a leveling off of costs around the $780 and $1,230 levels should be anticipated once an institution's annual enrollment increase has settled down to 10 percent or less.

Sources of Operating Revenue

State general funds for community colleges under present Oregon statutes are exclusive of those appropriated for other segments of public education. As basic school support, the general fund contributes approximately 30 percent for the operation of Oregon public schools through grade 12. General fund contributions distributed through the State Board of Higher Education amount to slightly less than half of the total expenditures connected with the board's instruction, research, extension, and public service activities. Under the law, general fund payments, including federal vocational funds, are made through the State Board of Education to local community college boards of education at a rate not to exceed $433 per FTE student. In 1964-65, this distribution formula accounted for 47.5 percent of total statewide community college and education center operating costs.

Table 47 indicates the percentage of 1964-65 operating costs borne by state and federal reimbursement, student tuition and fees, and local taxes. Actual payments from the state general fund and federal vocational-technical allotments for community colleges operating costs in 1964-65 totaled $1,894,375 (47.5 percent). Within that total reimbursement $264,268 (13.9 percent) came from federal vocational-technical funds.

The continued erosion of the proportion of the operating costs of the community colleges provided by the state is revealed in Table 47. Initial legislation for support of community colleges in the state was based upon a concept of state aid contributing two-thirds of the operating revenue. At the same time, however, a ceiling of $433 per FTE student was imposed in the belief that the $650 per FTE represented a reasonable operating cost. While this amount may have been reasonably adequate in 1961, the continued rise in the cost of educational processes has served to make the dollar amount the controlling factor. As a result, in 1964-65 state and federal support contributed only 47.5 percent of the operating revenue for Oregon community colleges. Computations for the 1965-66 year are not yet complete (August 1966).

The cost projection for Oregon community colleges for the period 1966-1975 is based upon current enrollment projections converted into estimated expenditures and sources of revenue (Table 48, p. 232). The basis for this projection is the present state reimbursement formula. To whatever extent the reimbursement formula is improved during the period, the cost projections would be proportionately increased.

TABLE 47

SOURCES OF OPERATING REVENUE
1964-65

Institution 1	State & Federal[1] 2	Tuition & Fees 3	Local & Other 4
Blue Mountain	$ 179,535 46.0%	$ 100,029 25.6%	$ 110,780 28.4%
Central Oregon	181,541 40.6	138,620 31.0	126,741 28.4
Clatsop	144,605 39.9	70,257 19.4	147,558 40.7
Eugene	199,760 61.4	71,947 22.1	53,530 16.5
Oregon City	11,259 25.0	15,477 34.3	18,331 40.7
Portland	564,718 54.8	234,536 22.8	231,092 22.4
Salem	190,676 59.8	94,498 29.6	33,650 10.6
Southwestern	207,156 33.8	140,699 23.0	265,058 43.2
Treasure Valley	149,095 48.0	109,401 35.3	51,713 16.7
Umpqua	66,032 45.4	54,580 37.5	24,860 17.1
TOTAL	$1,894,377 47.5%	$1,030,044 25.8%	$1,063,313 26.7%

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[1] Of the total state and federal support, $264,268 (13.9%) was from federal vocational funds.

Source: State Department of Education.

TABLE 48

PROJECTION OF APPROVED REIMBURSABLE COSTS, OREGON COMMUNITY COLLEGES, 1966-1975

1	1966-67 2	1967-68 3	1968-69 4	1969-70 5	1970-71 6	1971-72 7	1972-73 8	1973-74 9	1974-75 10
Total Approved Oper. Costs	$8,580,109	13,411,380	16,428,630	19,046,580	21,642,930	24,287,760	26,948,100	29,362,980	31,157,010
Net Operating Costs	6,385,909	9,747,210	11,913,960	13,805,610	15,675,660	17,593,920	19,523,100	21,276,210	22,571,820
Tuition	2,194,500	3,664,170	4,514,670	5,240,970	5,967,270	6,693,840	7,425,000	8,086,770	8,585,190
State Reimbursement	4,113,500	5,876,243	7,240,193	8,404,963	9,569,733	10,734,936	11,907,500	12,968,783	13,768,101
Federal Reimbursement	1,026,795	2,072,400	2,483,250	2,864,400	3,229,710	3,630,000	4,031,940	4,400,880	4,660,590
Local District Contribution	1,245,314	1,798,567	2,190,517	2,536,247	2,876,217	3,228,984	3,583,660	3,906,547	4,143,129

Source: State Department of Education.

Recommendations:

1. That the State Board of Education prepare estimates and make requests for legislative appropriations for the operation of community colleges.

   No attempt should be made to classify community colleges under other educational categories. They are unique institutions with specific educational objectives and must maintain flexibility in order to shift their services according to the educational needs of their service areas. State general fund appropriations for community colleges should be exclusive of those appropriated for other segments of public education.

2. That the method of state support distribution to community colleges be based upon the number of full-time-equivalent students enrolled in courses approved by the State Board of Education.

   The full-time-equivalent basis of reimbursement is a fair and operable system that relates actual expenditures to students served. Because it is computed on an annual basis, it reflects the total yearly enrollment and does not cause reimbursement to be based upon fall-term peak enrollment. The present formula for calculating FTE enrollment is 15 quarter credit hours of lower-division collegiate enrollment and 680 clock hours of vocational-technical enrollment per full-time-equivalent student.

3. That the level of state reimbursement for community college operations recognize the higher cost of vocational-technical programs.

   The present formula used in the cost projection for community college enrollment indicates that in spite of the application of federal vocational-technical funds, the local district still must pay $120 per FTE more for such programs than for the lower-division collegiate programs. An increase of state reimbursement for vocational-technical programs from $433 to $553 would reduce the local district's costs to $77 per FTE for all programs. This increase in state reimbursement for vocational enrollment would result in all community college programs having an equal base for local funding, thus providing greater incentive for the expansion of vocational programs.

4. That the legislature provide a biennial emergency fund of no more than 10 percent of the total amount appropriated for community college operation to meet the contingency of overenrollment in community colleges in approved courses.

   Newness of community colleges in Oregon, continuous development and expansion of programs, and the increasing demand of youth and adults for these educational opportunities make enrollment projection on a biennial basis extremely difficult. Under the present method of appropriating state funds upon projected enrollment, overenrollment on a statewide basis can result in prorating the amount available for state reimbursement, thereby reducing the level of state support upon which the institutions' budgets were predicated. The establishment by the legislature of an emergency fund upon which community colleges could draw for the full level of state support set forth in the statutes would reduce this danger.

5. That state funds allocated to community colleges for operating costs not be reduced as additional federal funds become available.

   The formula for the distribution of funds for operating costs should reflect the heavier operating costs and capital outlay for certain vocational-technical courses. Federal funds received for vocational-technical training should be distributed separately from funds appropriated by the state and should be exempt from the computations of the distribution formula for operation costs. State funds allocated to community colleges should not be reduced as additional federal funds become available. However, in no case should the availability of federal funds be used to offset the rate of local participation as prescribed by law. If federal monies are used to supplement rather than supplant state support, community colleges will be able to provide some of the more useful courses not now offered because of higher costs and thereby assist them in becoming recognized centers for occupational training.

6. That community colleges be encouraged to contract with other educational institutions for courses in special fields.

   The community college should make available its facilities to the high schools of its area, on a sound contractual basis, for appropriate secondary courses of an academic and/or vocational nature when it is determined that the high schools cannot or do not elect to offer them.

   Likewise, when it is determined that a private institution can offer course work of comparable quality at less cost, the community college should have the authority to contract with the private institution for such course work. When useful adjuncts to a student's course of study (such as a programed learning course in electronics or mathematics) are available, the community college should consider subsidizing a student's participation in such courses.

Educational Programs

Community colleges in Oregon have developed from diverse backgrounds within their individual locales, and educational programs have been designed to meet the needs of given service areas. Consequently, the colleges may differ somewhat in the relative encouragement each gives to its several programs. In 1964-65, a total of 4,598 FTE students were enrolled in lower-division collegiate and vocational preparatory programs in Oregon's community colleges (Table 49, p. 235). Of that total, 1,620 were enrolled in lower-division collegiate programs, and 2,978 were enrolled in vocational programs. In other words, for every one FTE student enrolled in lower-division collegiate work, there were approximately 1.8 FTE students enrolled in vocational work. This average ratio encompassed a range from 3.4 vocational FTE's for every one lower-division FTE at Portland Community College to 2.7 lower-division collegiate FTE's registered for every one vocational FTE at Central Oregon College. Neither Eugene nor Salem offered lower-division collegiate programs during 1964-65.

A comparison of the FTE enrollments in each program may be misleading because the FTE measure fails to reflect the number of individual students served in different programs. In 1964-65, the same comparisons with the student head-count measure substituted for the FTE student measure produces varied results (Table 50, p. 236). The two community college programs, lower-division collegiate and vocational preparatory, including full- and part-time programs, together accounted for 76.3 percent of Oregon's total community college head-count enrollment as compared to the 91.3 percent when using the FTE measure. In 1964-65, a total head count of 25,327 students was enrolled in nine Oregon community colleges and education centers as contrasted with 5,034 FTE. Of these, 2,993 were enrolled in lower-division collegiate programs, and 16,329 were enrolled in vocational programs. When the head-count enrollment figures are used, the ratio of the number in vocational preparatory programs to those in lower-division programs is 5.5:1. This relationship may be contrasted with the 1.8:1 ratio favoring vocational preparatory programs over the lower-division programs when the FTE student measure was used. The range of the head-count relationship involves a high of 16 to 1 vocational over lower-division collegiate students at Portland Community College to 1.2:1 lower-division collegiate students enrolled over vocational students at Central Oregon College. Central Oregon College was the only institution

TABLE 49

PERCENT DISTRIBUTION OF STUDENT FTE BY PROGRAM
OREGON COMMUNITY COLLEGES - 1964-65

Institution	Student FTE						Percent				
	LDC	Voc. Prep	Voc. Ext.	Adult Ed.	Non-Reimb.	Total	LDC	Voc. Prep	Voc. Ext.	Adult Ed.	Non-Reimb.
1	2	3	4	5	6	7	8	9	10	11	12
Blue Mountain	189.83	196.88	23.75	4.38	4.76	419.60	45.2%	46.9%	5.7%	1.0%	1.1%
Central Oregon	294.71	98.91	9.50	25.51	1.92	430.55	68.4	23.0	2.2	5.9	.4
Clatsop	177.98	123.34	14.67	17.97	.67	334.63	53.2	36.9	4.4	5.4	.2
Portland	331.50	705.05	408.34	--	267.44	1,712.33	19.4	41.2	23.8	--	15.6
Southwestern	264.41	103.42	64.74	47.68	3.84	484.09	54.6	21.4	13.4	9.8	.8
Treasure Valley	277.84	124.61	28.10	3.49	--	434.04	64.0	28.7	6.5	.8	--
Umpqua	83.49	21.57	32.18	15.40	6.04	158.68	52.6	13.6	20.3	9.7	3.8
SUB TOTAL	1,619.76	1,373.78	581.28	114.43	284.67	3,973.92	40.8	34.6	14.6	2.9	7.2
Eugene	--	466.40	103.84	14.18	22.62	607.04	--	76.8	17.1	2.3	3.7
Salem	--	361.80	91.49	--	--	453.29	--	79.8	20.2	--	--
SUB TOTAL	--	828.20	195.33	14.18	22.62	1,060.33	--	78.1	18.4	1.3	2.1
TOTAL	1,619.76	2,201.98	776.61	128.61	307.29	5,034.25	32.2%	43.7%	15.4%	2.6%	6.1%

Source: State Department of Education.

TABLE 50

OREGON COMMUNITY COLLEGES
UNDUPLICATED STUDENT HEAD COUNT - 1964-65

Institution	Lower Division	Vocational	Adult Education	Non-State Assisted Classes	Classes Fin. Sep. Contract	Total
1	2	3	4	5	6	7
Blue Mountain	298	721	97	20	68	1,204
Central Oregon	535	450	250	46	65	1,346
Clatsop	272	405	263	23	-	963
Portland	506	8,230	-	2,094	635	11,465
Southwestern	523	853	189	124	158	1,847
Treasure Valley	577	888	61	-	213	1,739
Umpqua	282	583	242	109	-	1,216
Eugene	-	2,436	321	555	317	3,629
Salem	-	1,763	-	-	148	1,911
STATE TOTAL	2,993	16,329	1,423	2,971	1,604	25,327
Percent each program is of total	11.8%	64.5%	5.6%	11.8%	6.3%	100.00%

Source: State Department of Education.

showing a lower-division collegiate head-count enrollment in excess of vocational head count. All others, even those with a higher lower-division collegiate FTE enrollment, recorded higher vocational head counts.

Recommendations:

1. That community colleges be developed as comprehensive institutions offering vocational-technical, lower-division collegiate, and general adult educational programs.

   Although program offerings and services of individual colleges will vary depending upon the interest, needs, and resources of the population served, the comprehensive community college should include such programs. These courses of study are appropriate for all those of post-high school age. For a substantial number of Oregon youth, the subbaccalaureate occupationally oriented programs have a meaningful relation to their capacities and interests and provide avenues to a successful career. Denied such opportunities, these youth either drop out of school or remain in colleges and programs for which they have neither the capacity nor the interest.

2. That community colleges not be viewed as starter institutions intended to evolve into four-year baccalaureate institutions.

   Community colleges are educational institutions intended to fill the institutional gap in post-high school education by offering broad comprehensive programs in both academic and technical subjects. They are designed to provide terminal two-year programs for some, lower-division college courses for others, and a means for adults to continue their academic education or attain new vocational skills. It should be realized that some curricular offerings of a vocational nature may require slightly more than two years for completion. To organize a community college with the view that it may eventually become a four-year institution will of necessity impair the effectiveness with which the college may carry out its unique responsibilities.

3. That community college programs be coordinated with the various educational programs in high schools and baccalaureate-degree institutions, and that the state board continue to serve as the coordinating agency.

   The State Board of Education, through the Superintendent of Public Instruction and adequate supporting staff, should provide leadership for the orderly development of the community college program, including provisions for continuing study in determining ways and means of improving the program. The State Department of Education is required to approve courses offered by community colleges when state reimbursement is sought. This approval at the state level guards against the unnecessary duplication of course offerings throughout the state. The state can determine those courses which are most needed, and decide which community colleges have adequate resources and student potential to offer courses which need not be made available at every institution.

4. That the State Board of Higher Education and the State Board of Education establish means whereby maximum articulation of courses and credits can be assured on a continuing basis.

   Until the community college is accredited by the Northwest Association of Secondary and Higher Schools, the joint approval of the State Board of Education and the State System of Higher Education for any college transfer course is required. The effectiveness of this advance approval by the State System of Higher Education of lower-division collegiate course offerings has been demonstrated in the relatively easy transition of Oregon community college students who continue their studies in Oregon public four-year colleges and universities.

Although there now exists no legal provision for continuation of such approval after a community college is accredited, the State Board of Higher Education and the State Board of Education should establish means whereby maximum articulation of courses and credits can be assured.

5. That systematic surveys of known and projected opportunities be provided on a long-range, continuing basis in order that community colleges may be advised as to training and retraining programs needed.

   Gainful employment at a level reasonably commensurate with the individual's potentialities lies at the base of a satisfying and socially useful life. It is essential, both to the individual's contentment and the social and economic progress of our state, that educational preparation leading to employment in a wide-ranging occupational spectrum be available to the youth of Oregon.

   Local, regional, and state surveys of the educational and service needs of each community college area should be made a continuous part of community college development. Data gathered should include information concerning employment opportunities known and projected in the community, state, and region. Programing for these courses should continue to be worked out in cooperation with representatives of labor, business, industry, and agriculture. Institutional programs should be oriented to the needs of a particular area but with an eye also to the employment opportunities for its graduates elsewhere than in the immediate vicinity.

6. That community colleges, as comprehensive educational institutions, insure that all educational programs are given equal status within the institutional structure.

   Faculty and students in the various educational programs offered by a community college must not be allowed to feel that their particular program is in any way inferior to any other program offered by the college. No single faculty group should be given a predominant voice in the institution's operation. Salary schedules and academic rank, if any, should recognize the particular qualities of competent instructors, and not be based solely upon academic credit or degrees earned. Facilities, equipment, and teacher materials provided for all programs should be of a level necessary for quality instruction in the particular program involved. All students enrolled in a community college should be entitled to the same institutional privileges that pertain to any student. The community college must take precautionary measures to prevent development of the academic-vocational dichotomy that tends to prevail in much of our society and in many of our educational institutions.

It should be noted that inadequate vocational facilities were characteristic of all Oregon community colleges during 1964-65. While such institutions as Portland, Blue Mountain, Salem, and Eugene were moderately well equipped to offer some vocational programs, none of the community colleges had extensive facilities. Institutions such as Treasure Valley, Umpqua, and Central Oregon were forced to offer limited vocational work in rented facilities and mostly in evening programs.

Oregon's community college enrollment projections, made biennially, are based upon actual enrollment figures for previous years, enrollment projections for grades 9-12 in the geographic area served by a community college, population trends in an education district, existing alternative post-secondary educational programs in a college's service area, and the scope of a community college's curricula. Although past studies in states with established community college systems have indicated a ratio of one community college student to every four high school students in the geographic area being served, this may be a conservative estimate. Previous community college enrollment projections for Oregon have incorporated the one-to-four ratio, and the same formula has been applied in determining enrollment projections in this study. Such projection is extremely hazardous, especially in the early stages of institutional development. A number of variables, such as (1) year in which a new community college will be started; (2) the rate of construction of established institutions; (3) the rate of expansion of course offerings, contribute to making long range enrollment projections "educated guess work" at best.

The revised enrollment projection (Table 51, pp. 240-242) for Oregon community colleges is a projection of reimbursable student full-time-equivalencies. The revision attempts to correct the inadequacies of earlier projections and is thought to be more realistic in terms of the uses to which the projection will be put. The revision is based upon a 1965 enrollment projection of grades 9-12 and assumes the following:

1. Average daily membership grades 9-12 on a projected basis can be derived from the enrollment projection by assuming that the same relationship statewide between ADM and enrollment will continue to exist in the future as has existed in the past.

2. The projected ADM of any given area in the state will maintain the same relationship to state totals as existed in 1964-65.

3. The potential reimbursable student full-time equivalency of a community college is one-fourth of the projected grade 9-12 ADM of the area served. (The 1:4 ratio was applied to all schools except Treasure Valley which has already exceeded that limitation. Treasure Valley's potential is projected on a 1:3 basis.)

4. All schools will achieve their potential in a ten-year period unless the history of an individual institution indicates that it is progressing toward its potential at a faster rate. Clatsop and Treasure Valley have been adjusted accordingly on this basis.

5. The rate of growth of individual institutions toward their potential is a linear projection.

6. Lower division collegiate and "all other programs" are projected separately. In the ten existing institutions the difference between the two is projected as the history of the institution indicates. For the five schools not yet in existence, it is assumed that 50 percent of the total will be in lower-division collegiate.

At press time for this publication, complete data on the Oregon community college program for 1965-66 had not been received. However, the pre-audit report on full-time equivalencies indicates that an enrollment of 7,546.3 FTE was registered. This figure represents an increase of 61.3 percent over FTE enrollment for 1964-65 and is indicative of a continuing financial problem that will face community colleges if the fixed appropriation method of state reimbursement continues.

Admission Policies

Oregon law provides that a community college shall admit high school graduates who are residents of Oregon and other residents who, in the judgment of the administration of the college, are capable of profiting from the instruction offered. It also permits admission of persons who are not residents of Oregon, including persons who are not citizens of the United States if such admission is suitable. Consequently, a typical community college student body will contain:

1. Recent high school graduates who are seeking two-year programs of technical-vocational or semi-professional training.

2. Students eventually bound for a four-year college who want to spend their freshmen and/or sophomore years in their own community.

TABLE 51

COMMUNITY COLLEGE PROJECTED REIMBURSABLE ENROLLMENTS 1966-67 to 1974-75
(1965 PROJECTION)

Community College	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	Potential FTE Enrollment
1	2	3	4	5	6	7	8	9	10	11
Blue Mountain										
Lower Division	378	412	450	487	525	562	603	603	603	
All Other	310	338	368	399	429	460	493	493	493	
Total	688	750	818	886	954	1022	1096*	1096*	1096*	1096
Central Oregon										
Lower Division	419	459	498	538	578	617	660	660	660	
All Other	280	306	333	359	385	412	441	441	441	
Total	699	765	831	897	963	1029	1101*	1101*	1101*	1101
Clackamas County										
Lower Division		375	487	598	710	821	933	1044	1156	
All Other	55	376	487	599	710	822	933	1045	1156	
Total	55*	751	974	1197	1420	1643	1866	2089	2312	2760
Clatsop County										
Lower Division	256	270	284	284	284	284	284	284	284	
All Other	210	222	234	234	234	234	234	234	234	
Total	466	492	518*	518*	518*	518*	518*	518*	518*	518
Lane										
Lower Division	896	1092	1287	1483	1678	1874	2070	2265	2463	
All Other	598	728	859	989	1120	1250	1380	1511	1642	
Total	1494	1820	2146	2472	2798	3124	3450	3776	4105*	4105
Portland										
Lower Division	1175	1420	1665	1910	2155	2400	2645	2889	2889	
All Other	1763	2131	2498	2865	3232	3600	3967	4335	4335	
Total	2938	3551	4163	4775	5387	6000	6612	7224*	7224*	7224

Salem										
Lower Division			250	455	714	858	1003	1147	1292	
All Other	585	600	600	684	714	859	1003	1148	1292	
Total	585	600	850	1139	1428	1717	2006	2295	2584	3164
Southwestern Oregon										
Lower Division	402	459	517	575	633	690	751	751	751	
All Other	329	377	424	471	518	566	616	616	616	
Total	731	836	941	1046	1151	1256	1367*	1367*	1367*	1367
Treasure Valley										
Lower Division	458	477	477	477	477	477	477	477	477	
All Other	247	257	257	257	257	257	257	257	257	
Total	705	734*	734*	734*	734*	734*	734*	734*	734*	734
Umpqua										
Lower Division	265	344	423	501	580	658	737	816	897	
All Other	178	230	282	335	387	440	492	544	598	
Total	443	574	705	836	967	1098	1229	1360	1495*	1495
Mt. Hood										
Lower Division	376	487	598	709	820	931	1042	1153	1264	
All Other	375	486	597	708	819	930	1041	1152	1263	
Total	751	973	1195	1417	1639	1861	2083	2305	2527	2756
Linn-Benton										
Lower Division		354	447	540	633	726	819	912	1005	
All Other		353	446	539	632	725	818	911	1004	
Total		707	893	1079	1265	1451	1637	1823	2009	2381
Mid-Columbia										
Lower Division		130	164	198	232	266	300	334	368	
All Other		130	164	198	232	266	300	334	368	
Total		260	328	396	464	532	600	668	736	875
South Central										
Lower Division			334	432	529	627	724	822	919	
All Other			334	431	529	626	724	821	919	
Total			668	863	1058	1253	1448	1643	1838	2431

TABLE 51 - (Continued)

Community College	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	Potential FTE Enrollment
1	2	3	4	5	6	7	8	9	10	11
Washington County										
Lower Division		379	479	578	678	777	877	976	1076	
All Other		379	478	578	677	777	876	976	1075	
Total		758	957	1156	1355	1554	1753	1952	2151	2553
Existing Programs										
Lower Division	4249	5308	6338	7308	8334	9241	10,163	10,936	11,472	
All Other	4555	5565	6342	7192	7986	8900	9,816	10,624	11,064	
Total	8804	10,873	12,680	14,500	16,320	18,141	19,979	21,560	22,536	
Projected Programs										
Lower Division	376	1350	2022	2457	2892	3327	3762	4197	4632	
All Other	375	1348	2019	2454	2889	3324	3759	4194	4629	
Total	751	2698	4041	4911	5781	6651	7521	8391	9261	
Total										
Lower Division	4625	6658	8360	9765	11,226	12,568	13,925	15,133	16,104	
All Other	4930	6913	8361	9646	10,875	12,224	13,575	14,818	15,693	
Total	9555	13,571	16,721	19,411	22,101	24,792	27,500	29,951	31,797	

*Indicates the year in which the projection anticipates the potential will be reached.

For existing institutions the division between lower-division collegiate and all other courses is made as follows:

Blue Mountain 55% LDC starting in 1965-66.
Central Oregon 60% LDC starting 1965-66.
Clatsop County 55% LDC starting 1965-66.
Lane 45% LDC in 1965-66 and 60% starting 1966-67.
Portland 45% LDC in 1965-66 and 40 % starting 1966-67.
Salem 50% LDC by 1970-71.
Southwestern Oregon 55% LDC starting 1965-66.
Treasure Valley 65% LDC starting in 1965-66.
Umpqua 60% LDC starting 1965-66.

For non-existing institutions the division is assumed to be 50% lower division and 50% all other reimbursable programs.

**The projection for 1966-67 in Clackamas County refers to the existing program in the Oregon City School District. Starting with the 1967-68 school year the projection assumes a community college area education district including most of Clackamas County.

Source: State Department of Education.

3. Students who have failed to realize their maximum academic potential while in high school but who may be adjudged to have shown increasing maturity and determination at a level that would give them a reasonable chance of achieving success in the proper educational program.

4. Young adults who have not graduated from high school or who, through part-time study, hope to earn a college diploma.

5. Workers who want to improve their skills, prepare for advancement, or expand their general education.

6. Housewives interested in homemaking, child care, or general educational preparation for employment or reemployment.

7. Older people seeking to develop new interests in a wide variety of adult education courses.

Recommendations:

1. That admission be permitted high school graduates and non-high school graduates who can profit from the instruction offered.

   The purpose of "open-door" admissions is to make sure that every person is granted the opportunity to succeed or to fail by his own efforts. Such a policy recognizes that the most precious resource of the nation consists of the many and varied abilities of its citizens. Many of these abilities now remain undeveloped because of the dearth of opportunity for their cultivation. In increasing numbers - because of increased maturity, because of the example of their peers, because of rebuffs in the labor market - able but previously unmotivated people are coming to realize their need for more education and go in search of it. The problem for American society is not to discourage people from seeking post-high school education, since nearly half of the ablest young people do not now even apply for college. The task, rather, is to remove every artificial barrier so that they may be enabled to achieve the learning which they have been stimulated to desire.

2. That counseling and guidance be recognized as an integral part of the community college program and that such services be adequately provided.

   The commitment of community colleges to the "open-door" policy and the comprehensive program of these institutions will attract a more varied mix of students than normally found in four-year colleges and universities. In order that the "open-door" policy may be truly an open door to educational opportunities, effective counseling and guidance services must be made available to all who may benefit from the colleges' educational programs.

Instructional Staff

Criteria utilized by the State System of Higher Education and the State Department of Education in determining minimum standards for the approval of community college instructors have been reviewed in this report. These standards provide a sound academic level of preparation for those teaching in the lower-division collegiate program and adequate academic preparation, as well as on-the-job experience, for those teaching in the vocational-technical program.

Recommendations:

1. That a master's degree in the field of principal assignment and substantial work at the graduate level in any other subject to be taught be the minimum acceptable qualifications for community college instructors teaching college transfer courses.

A basic requirement for college level instruction is a qualified instructor. In Oregon community colleges, at their present stage of development, the instructor often finds himself in a new and rapidly growing institution. He will often be involved in organization of courses and selection of equipment and materials. Moreover, he may be the only person in his field on the college staff. Indeed, a portion of his teaching assignment may be in his minor field of study. Thus, a new community college instructor may have somewhat greater responsibility than a new instructor at a larger established institution.

2. That on-the-job work experience in the appropriate field continue to be a major consideration in the approval of vocational educational instructors.

   Insistence upon certain academic requirements should not be made at the expense of rejecting those with valuable "know how" obtained from actual job experience. Instructors having job experience but insufficient academic backgrounds can be given such backgrounds through in-service training programs. The reverse is hardly true, as it is most difficult to obtain related job experience for the academically qualified instructor while he is in a teaching situation. It is most desirable, of course, that instructors with adequate academic backgrounds and on-the-job experience be secured.

3. That community colleges strive to obtain a staff ratio of one lower-division collegiate instructor for each twenty students, and one vocational instructor for each fifteen students.

   The community colleges by philosophy are essentially teaching institutions. This emphasis should reflect itself in institutional staff assignments. These ratios are admittedly arbitrary ones. While offered principally for planning purposes, they have proven effective in practice. The actual ratio should assure both the college and the students an instructional situation that is educationally and financially efficient.

4. That community colleges be given adequate financial resources to enable them to offer attractive instructional salaries, and that an adequate proportion of their operating budgets be so assigned.

   As in all segments of education, increased institutional salaries are necessary to continue to attract capable personnel. Satisfactory conditions of retirement, sick leave, tenure, and sabbaticals must also be developed if the community college is to be able to employ qualified instructors while remaining competetive in the employment market.

5. That Oregon's teacher education institutions be encouraged to plan programs that will better prepare potential community college instructors.

   The uniqueness of the community college educational program has been described. Many competent instructors have reached, and will continue to reach, community colleges by the "round-about" route of transferring from high school or four-year college teaching. However, limited pre-employment exposure to community colleges frequently impedes instructors from functioning effectively within the community college environment. Public and private teacher education institutions, together with the State Department of Education, should cooperate to develop meaningful pre-service and in-service training programs for potential and incumbent personnel. This recommendation should in no way be construed as a recommendation for the certification of community college instructors.

Tuition and Fees, Student Assistance

Tuition rates vary among the colleges. In the early stages of development, many of the college boards and the State Board of Education felt that tuition charges should be comparable to those of regional four-year colleges. This has resulted in Oregon community college tuition being among the highest in the nation.

Recommendations:

1. That tuition in Oregon community colleges not exceed approximately one-fifth of the institution's base FTE instructional costs.

   Tuition charges for community college students should be kept as low as possible while retaining a desirable level of student participation in the costs of his education. Studies show that the bulk of community college students come from middle and lower economic classes, many of whom are able to obtain post-high school education only because of the availability of community college programs. This condition has been recognized by the committee in its deliberations.

   The committee has further recommended that tuition charges for all students be uniform within a given institution. To charge vocational-technical students a higher fee because their cost of study is more expensive would violate this principle. Lower-division collegiate programs will generally cost less than vocational-technical programs. Tuition charges should therefore be based on the costs of the lower-division collegiate programs in order that students may not be financially penalized by their decision to enroll in vocational-technical training.

2. That operating revenue lost by implementing the preceding recommendation be retrieved through increased state funding.

   For the 1967-1975 period, the State Department of Education has projected base operating costs for Oregon community colleges at $780 for the lower-division collegiate program and $1,230 for vocational-technical programs. While legislation now permits the application of federal vocational funds to vocational-technical operating costs, such programs will still cost the local district considerably more than will the lower-division collegiate program. If institutional tuition uniformity is to be maintained, the revenue loss should not be borne by the local district. Incentive to promote technical-vocational education will be blunted if cost to the local district remains excessive. The federal government has recognized this principle by making special funds available. The state funding program for community college operation should also recognize this principle by providing adequate funds to offset any additional cost to the local district.

3. That community college students be permitted to participate in all state or federally funded student assistance plans for which students attending any publicly operated colleges are eligible.

   Present inadequacy of funds in such programs has been cited as the reason for excluding community college students from participation. This argument is neither educationally nor morally defensible. The financial needs of students who elect to attend community colleges are not of lesser importance than the needs of those attending four-year colleges. While the dollar amount needs per student are generally less, the importance of these dollars to the community college student may be even greater.

Transfer of Credits

Under the present system, community college courses taught in the lower-division collegiate program are approved in advance by the State System of Higher Education, thus guaranteeing the transfer of credits from the community college to the state system institution; however, there is no guaranteed transfer of credit for course work taken in vocational-technical programs.

Recommendations:

1. That the post-high school institutions of the state develop means for assessing accomplishment on the basis of performance so that learning wherever and however acquired may be given appropriate recognition in terms of degree requirements.

   A flexible system of credit by evaluation or examination recognizes that learning occurs in many ways. A transfer credit policy of this nature would minimize the barrier that now exists between lower-division collegiate and vocational-technical programs. Students would be permitted to validate such learning as they have acquired which would be relative to college degree requirements.

   Among other conclusions, the National Project for Improvement of Articulation Between Two-Year and Four-Year Colleges has stated: "The door should be kept open to allow students in occupational programs to transfer if circumstances are favorable for their doing so. Techniques for classifying students as 'terminal' and 'transfer' and for counseling them into appropriate programs are no better than existing techniques for matching student and college at the freshman level."[1]

   Closing the door of the four-year colleges to good students in all non-transfer programs would result both in disqualifying many capable students and denying opportunities to others who should go on to work for baccalaureate degrees.

Intercollegiate Activities and Athletics

Competition is one of the most pervasive and most valued influences to be found in American life. It is encouraged and fostered in most forms of human endeavor. Athletic competition with its emphasis upon physical hardihood and the development of abilities to plan and execute strategies of attack and to meet with disciplined reaction the moves of an opponent is also pervasive in our way of life.

Recommendations:

1. That community colleges develop a well-rounded program of student activities in which intercollegiate athletics has a part.

   Just as community college education rests on the philosophy of providing adequate opportunity for each student to realize his potential, so should the activity program be structured to permit the maximum involvement of all students. Intercollegiate athletics can and should be an important part of this program.

2. That participation in all kinds of athletic competition by those who are capable and interested be encouraged.

   Educators and lay citizens have long accepted the educational value of a well rounded student-activity program. On the American scene, competitive athletics has historically been an important part of such a program. Civic, social, religious, educational, business, and professional groups of all kinds have promoted such competition for the personal values accruing to both participant and spectator. As young people in other walks of life and in other educational institutions should not be deprived of the benefits of athletic competition, neither should community college youth be denied these benefits. However, the major emphasis should be upon intramural athletic competition.

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[1] Association of American Colleges and the American Association of Junior Colleges Joint Committee on Junior and Senior Colleges, Articulation Between Two-Year and Four-Year Colleges (Cooperative Research Project No. 2167; Berkeley: Center for the Study of Higher Education, University of California, 1964).

3. That intercollegiate athletics competition by community colleges be limited to competition with other community colleges.

   The place of intercollegiate athletics in the community college has been sketched above. Intercollegiate competition among institutions adhering to a similar educational philosophy will assist in protecting the college administration from the pressures both in and out of college demanding a highly emphasized athletic program as a focal point of community and/or institutional pride.

4. That intercollegiate athletic activities be ineligible for any state financial assistance, either for operating programs or constructing facilities.

   Intercollegiate athletics is a student activity, not an institutional one. It should be primarily financed by student funds. No state or federal funds are presently involved in the conduct of such programs nor the construction of facilities. The decision to participate in intercollegiate athletic activities is a right of the student body, the faculty, and the administration of each institution, and the necessary financial resources should be provided exclusive of the institution's operating or capital construction budget.

Student Housing

Recommendations:

1. That community colleges be established, and remain, principally commuting institutions.

   The community college should provide increased educational opportunities for the youth and adults of the community, many of whom will be able to take advantage of such opportunities only because of the lower cost of attendance. The needs of these students, which are not in all cases the same as those of students who are able to afford to attend college away from home, should be the foremost concern of the community college in structuring its program. Emphasis on greater social and civic intelligence within the community, through integration of the work of the college with the work of other community institutions, is the focus of a good community college. Only when students are integrated members of the community which the college serves can they achieve the maximum benefit from attending an institution so oriented.

2. That the State Board of Education develop standards which will determine under what conditions a community college shall be permitted to construct dormitories.

   While the community college has been established as principally a commuting institution, it is also imperative that such institutions possess the enrollment potential to be educationally and financially efficient. In those areas of the state with low population density, area education districts are of a size that makes it impractical for all students to be commuters. Additionally, some Oregon community colleges offer specialized vocational-technical courses that are not available elsewhere in the state. Students from all parts of Oregon should be encouraged to avail themselves of this kind of training. Thus, a small but important segment of the student body in several community colleges cannot be treated as commuting students. For this group, adequate housing should be made available.

3. That state resources not be used to construct dormitories for community college students, but that authority be provided for area education districts to construct and pay for such facilities.

Authority does not now exist for an area education district to acquire needed housing facilities and to repay acquisition costs out of anticipated future users' fees. The issue is not whether the state will participate in financing student housing but that under the present pattern of legislation there is no alternative for providing such housing other than through local district taxation.

Apprenticeship

The community colleges, in cooperation with the State Department of Education, have the responsibility under ORS 660.160 of providing related instruction for apprentices enrolled in the state apprenticeship program and employed or living in the colleges' service areas. This responsibility includes providing for suitable facilities, training and employing instructors, coordination of the related instruction with the job instruction, and supervision and evaluation of the related instruction. In carrying out these activities, college personnel work with the staff of the State Apprenticeship Council and with the various local trade apprenticeship committees. The apprenticeship committees serve in an advisory capacity to the colleges in the conduct of related instruction. Staff members of the State Apprenticeship Council and of the Federal Bureau of Apprenticeship and the local apprenticeship committees may also cooperate with the colleges in identifying and providing for vocational instruction needed to maintain or upgrade the job competencies of journeymen and other workers in the various trades and industrial occupations.

Programs of instruction specifically designed to serve a pre-appenticeship function may be offered by the colleges. In this type of program, the appropriate local apprenticeship trade committee serves as the institution's occupational advisory committee and functions directly in the placement of students completing the program.

A more indirect relationship between the colleges and the apprenticeship program exists in the area of occupational preparatory programs. Since some curricula prepare students for employment in apprenticeable occupations, one logical job placement for graduates is as apprentices. Areas of cooperation between apprenticeship and college personnel include consultation in determining instructional content, determination of employment opportunities, placement of graduates, and determination of appropriate credit on the apprenticeship.

Recommendations:

1. That the community colleges cooperate with the State Apprenticeship Council and local apprenticeship committees in providing quality related instruction for all apprentices in the colleges' service areas.

   In 1964-65, 1,734 apprentices were enrolled in the 106 related instruction classes operated by the nine community colleges. These classes accounted for approximately 85 percent of the statewide enrollment in apprentice-related instruction. Classes were offered for 43 major occupations. Organized related instruction was made available to 95 percent of the registered apprentices in the colleges' service areas.

2. That consideration be given in the larger communities to providing specialized facilities for the related instruction programs.

   There are increasing requests for the colleges to provide specialized skill and laboratory instruction that it is not feasible to provide as a part of the on-the-job training. To a large extent, this requirement is brought about by the increasing technological demands of the occupations and by the adoption of more automated "mass production" techniques. Since the majority of craftsmen learn their skills through informal, on-the-job experience, such facilities should also serve for instruction of journeymen and other workers.

3. That cooperation between the community colleges and apprenticeship be strengthened by:

   a. Encouraging and assisting labor and management to review content and length of training time of apprenticeship programs registered with the State Apprenticeship Council.

   b. Providing for joint planning between apprenticeship and educational agencies to meet manpower training and educational needs.

   c. Making provisions to inform high school and community college students, parents, and the public of the advantages of formalized apprenticeship.

   d. Developing a working relationship between the personnel of the community colleges and apprenticeship committees which will insure that optimum credit is given appropriate pre-apprentice instruction.

   e. Encouraging community colleges to develop a program that will allow apprentices who satisfactorily complete their apprenticeship to receive credit toward an associate degree.

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CHAPTER IX

State System of Higher Education

More than most states, Oregon has benefited from integrated planning of higher education. The principal instruments of coordination are the Oregon State Board of Higher Education, the Oregon State Board of Education, and the Educational Coordinating Council.

The Oregon State Board of Higher Education has for more than thirty-five years coordinated the planning and administration of the state's public four-year institutions. It is the Oregon State System of Higher Education, governed by the State Board of Higher Education, that is the subject of this present chapter.

The Oregon State Board of Education has general oversight of the community colleges (two-year) of Oregon, as is discussed in Chapter VIII, pp. 223, 237, and 243-244, and Chapter XII, pp. 304-305, of this present report.

The Educational Coordinating Council (created in 1962) brings together, for planning purposes, representatives of: (a) the public at large, (b) independent and public institutions of learning, including four-year institutions, junior colleges, community colleges, and technical institutes, and (c) the public schools of Oregon. The Educational Coordinating Council is discussed in some detail in Chapter XVI.

We come now to a consideration of the Oregon State System of Higher Education.

The Oregon State System of Higher Education

The Oregon State System of Higher Education consists of two universities (Oregon State University and the University of Oregon, with its Medical, Dental, and Nursing schools in Portland), four colleges (Portland State College, Southern Oregon College, Oregon College of Education, and Eastern Oregon College), a technical institute (Oregon Technical Institute), and the Division of Continuing Education.

In the aggregate, the state system institutions offer a very wide range of programs, including:

- Technical education programs (Table 26, Chapter V, p. 100), extending from two-year programs, available at Oregon Technical Institute, the University of Oregon Medical School (radiologic technology), and the Dental School (dental hygiene), to baccalaureate degree (four-year) programs available at Oregon Technical Institute (medical technology), and Oregon State University (civil engineering technology, electrical power technology, mechanical technology, mechanical technology in agriculture, and production technology).
- Professional programs extending from baccalaureate programs in selected fields -
    - in the four regional colleges (teacher education programs in all four colleges, and business administration programs at PSC and SOC).

. in the two universities (OSU - agriculture, business and technology, education, engineering, forestry, home economics, pharmacy; UO - architecture and allied arts, business, community service and public affairs, education, journalism, law, music, nursing, physical education, health and recreation management).

- to master's degree programs in all these fields and in some others (e.g., social work at PSC) and to doctoral programs in some (Table 27, Chapter V, p. 101). (See Chapter VI, pp. 153-154, for listing of graduate programs available at each institution.)

. Preprofessional programs are offered in some fields (e.g., agriculture, architecture, business administration, law, etc.) in institutions not having a professional program in the field (Table 28, Chapter V, p. 102). Upon completion of the preprofessional programs, the student is encouraged to transfer to the institution having the professional program in which he is interested.

. Liberal arts (humanities, social sciences, and sciences), extending from baccalaureate divisional or departmental major programs in all of the four-year institutions to master's and doctoral and post-doctoral work in these same fields available in the sciences at Oregon State University, and in the humanities, social sciences, and sciences at the University of Oregon (Table 29, Chapter V, p. 103). (See Table 36, Chapter VI, pp. 153-154, for listing of the graduate academic programs available in the state system.)

Governing Authority for State System of Higher Education

The governing board for the State System of Higher Education is the Oregon State Board of Higher Education, consisting of nine members appointed by the Governor and approved by the senate for six-year terms. The board, the board's office, consisting of the Chancellor and his staff, and the institutions of the state system, constitute the State Department of Higher Education. The organizational structure of the department is shown in Figure XXII, p. 253.

The Board of Higher Education establishes, for the institutions, policies relating to such matters as: curricula, admissions, tuition, staffing, finance, building, and plant planning.

Curricular Developments in the State System

Since 1909, when the Oregon State Board of Higher Curricula was established by the legislative assembly, Oregon public higher education has operated under a program of statewide coordination. The Board of Higher Curricula was succeeded in 1929 by the Oregon State Board of Higher Education, which has for nearly 35 years maintained a system of curricular allocations for the institutions of the state system. Modified from time to time, in accordance with changing times and the changing needs of the state, these curricular allocations have, through all these years, reflected the unchanging aims of the board, namely:

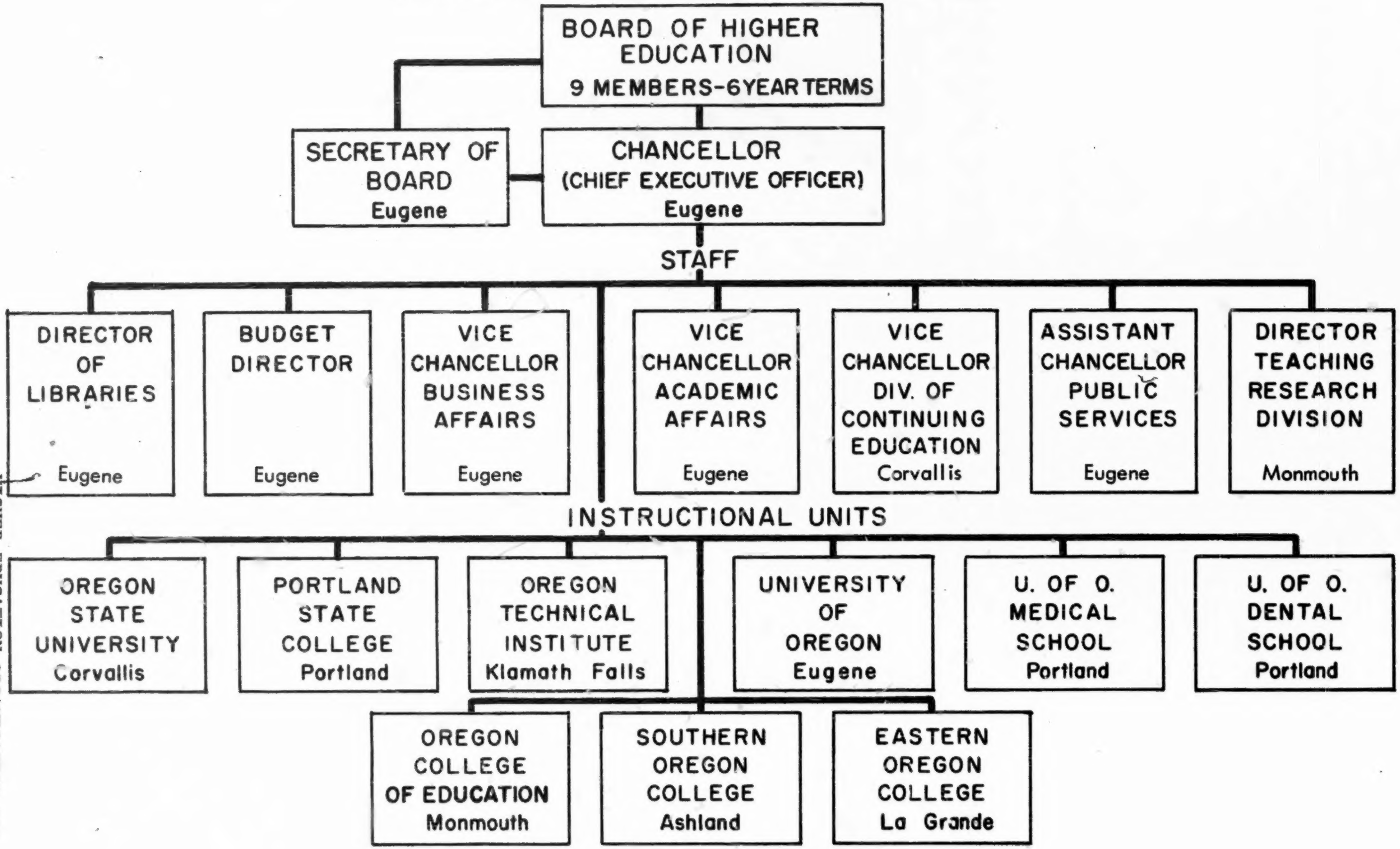
1. To decrease or prevent high costs resulting from unnecessary and undesirable duplication of major functions by several institutions.

2. To improve the quality of specialized programs by centering them in designated institutions as an allocation to the institution(s), rather than allowing their development in all institutions.

3. To improve the curricula of each institution by achieving the foregoing goals, but, also, by preventing unnecessary and undesirable proliferation of courses, services, and programs within each institution.

FIGURE XXII

DEPARTMENT OF HIGHER EDUCATION ORGANIZATIONAL STRUCTURE


BOARD OF HIGHER EDUCATION
9 MEMBERS-6YEAR TERMS
SECRETARY OF BOARD
Eugene
CHANCELLOR
(CHIEF EXECUTIVE OFFICER)
Eugene
STAFF
DIRECTOR OF LIBRARIES
Eugene
BUDGET DIRECTOR
Eugene
VICE CHANCELLOR BUSINESS AFFAIRS
Eugene
VICE CHANCELLOR ACADEMIC AFFAIRS
Eugene
VICE CHANCELLOR DIV. OF CONTINUING EDUCATION
Corvallis
ASSISTANT CHANCELLOR PUBLIC SERVICES
Eugene
DIRECTOR TEACHING RESEARCH DIVISION
Monmouth
INSTRUCTIONAL UNITS
OREGON STATE UNIVERSITY
Corvallis
PORTLAND STATE COLLEGE
Portland
OREGON TECHNICAL INSTITUTE
Klamath Falls
UNIVERSITY OF OREGON
Eugene
U. OF O. MEDICAL SCHOOL
Portland
U. OF O. DENTAL SCHOOL
Portland
OREGON COLLEGE OF EDUCATION
Monmouth
SOUTHERN OREGON COLLEGE
Ashland
EASTERN OREGON COLLEGE
La Grande

Curricula change, as they must in the fast-changing world of knowledge. But curricular changes that relate to curricular allocations to the institutions are given close scrutiny by the board's office, the board's committee on academic affairs and by the board itself. Where changes or modifications in curricular allocations seem, upon careful study, to be desirable, the board authorizes such modifications.

Periodically, during these 35 years, the State Board of Higher Education has provided the institutions with a statement of institutional guidelines for their guidance in curricular planning. The most recent of these guidelines statements is contained in a document adopted by the Board of Higher Education July 27-28, 1964, entitled Institutional Guidelines. This document includes: (a) a statement by the board concerning the meaning which the board attaches to the concept of curricular allocations in the state system in today's world, (b) a statement of the curricular policies which the board has established as a basis for the review of institutional requests for curricular changes, (c) a statement of the kinds of information to be submitted by the institutions to the board's office and to the board in connection with curricular requests, (d) a statement of state system guidelines, and (e) a statement of guidelines for each of the institutions within the State System of Higher Education. More will be said of these guidelines later.

Board Policy as to Curricular Allocations

The board's governance in the academic area can best be appreciated in the light of the board's views concerning the place of curricular allocations in today's world. Hence, we review briefly here the board's premises underlying the concept of curricular allocations as it is described in the board's guidelines statement adopted by the board in 1964.

> It is the policy of the Board to keep abreast of the educational needs of the State; to welcome the efforts of institutions to plan vigorously for meeting the changing needs for public higher education in Oregon, bearing always in mind that the Board must assess institutional requests for new programs in the light of whether the programs can be demonstrated to be in the best interests of the State as a whole, and within the economic capacity of the State to achieve. In keeping with this view, the Board is prepared to consider, from time to time, curricular requests from the several institutions, keeping always in mind the basic premises that underlie the whole system of curricular allocations as these are discussed below.
>
> The Board would anticipate that institutions requesting new programs or the expansion of existing programs, where board authorization is required, will present to the Board the factual data which the institution found persuasive in coming to the decision to request the program. The Board's decisions on such proposed new programs must rest upon a solid base of factual data relating to the extent and the nature of the need the State has for the proposed new programs (considering the existence of any similar programs already offered in the State System), the capacity of the requesting institution to offer a high quality program, and the costs to the State - both initial and long term - of financing a high quality program of the kind being requested.
>
> ### Basic Premises Underlying Curricular Allocations
>
> The Board reaffirms its support of the principle of curricular allocations as fundamental to curricular planning and development in the State System. The Board accepts the following premises underlying the concept of curricular allocations.

1. A system of coordinated development of collegiate curricula is necessary in Oregon to assure adequate availability of educational opportunity for qualified youth without unnecessary or unwise duplication of collegiate offerings, with a consequent waste of the State's financial resources.

2. Not all duplication of curricula is wasteful. To provide the cultural training requisite to a student's becoming a good citizen with all that this implies, there must be available at each collegiate institution a certain commonality of offerings in the humanities, social sciences, and sciences. Initially in Oregon (1932), this commonality extended through the first two collegiate years. State System guidelines, recently adopted, affirm that cultural education for life in the modern world requires the extension of that commonality of offerings in the liberal arts up through four years of college.

3. The concept of differential functions for institutions lies at the heart of the curricular allocations concept. Such differentiation of functions promotes:

    a. Specialization on the part of institutions, leading to the development of high quality programs in the curricular areas assigned any given institution. This is particularly critical in the professional and graduate areas where anything less than a program of the first order puts Oregon students at a genuine disadvantage. Limitation of institutions to certain specified professional and graduate programs lessens the possibility that funds needed to maintain these programs at a high level of excellence will be drawn off for support of other programs the institution might otherwise seek to establish.

    b. Effective concentration of the State's limited resources in the development of at least one high quality program in a given professional or graduate area, in lieu of several anemic, deficient programs.

4. In certain high cost professional, semi-professional, or graduate areas, requiring costly equipment, highly specialized faculty, and/or unique building facilities, a single institution should be given exclusive responsibility for the development of a program of excellence in that field. Other institutions in the State System wishing to offer the prerequisite or initial courses in the field should be authorized to do so only if the program they intend offering is keyed to that of the institution having exclusive jurisdiction in the subject area.

5. The assignment of exclusive jurisdiction to an institution cannot be considered irrevocable. Population shifts, changes in career choices, and other economic and social changes require that curricular allocations be adaptable to changing needs. There must be avenues for reassessing curricular allocations with a view to changing them where circumstances warrant. Nonetheless, whatever curricular allocations are in effect at any given moment must be clearly understood by institutions as binding, and must be adhered to until and unless, on the evidence available, the Board changes the allocations.

6. In meeting its curricular responsibilities, the Board should have as its primary consideration the assurance of adequate availability of educational opportunities for qualified youth without unnecessary or unwise duplication of educational resources.

Graduate and Professional Education

Graduate programs and professional programs (both undergraduate and graduate) tend to be high cost programs. Without an allocations system in these areas, the resources of the State will be inadequate to the needs of providing a truly high quality program at any single institution in the State.

However, the Board recognizes that in time, as the State System grows, it may become, in some graduate and professional areas, economically feasible for the State System to establish new programs to serve additional students (some of whom would find it difficult financially to enroll in the existing programs) in lieu of continued expansion of existing programs. In considering institutional requests for authorization of graduate and/or professional programs:

1. The Board will consider each request on its merits. Institutions making such requests should be expected to evaluate their proposals for the Board in such terms as the following:

    a. The relationship of the proposed program to the objectives of the institution as these are apparent in the approved State System and institutional guidelines.

    b. The relationship of the proposed program to existing State System programs in the same field. Is the new program intended to supplement, complement, or duplicate existing State System programs? In the light of the existing State System programs in the same field, why is the proposed new program needed? Is it designed to serve primarily a regional need? A state need?

    c. The growth prospects of the proposed program. How many students will it serve now? In the immediate future? In a long-ranging future?

    d. If it seems pertinent to the subject area in question, the employment opportunities for persons prepared in the proposed program.

    e. The capability of the institution to offer a high quality program in the subject area being considered.

        (1) What facilities has the institution appropriate to the needs of a high quality program in the field (library, laboratory, or other facilities and equipment)?

        (2) How many faculty members are qualified to participate in the program?

        (3) Does the institution have such related undergraduate and graduate programs as may be essential to give needed support to the proposed new program?

(4) What elements of the program, if any, are presently in operation in the institution?

(5) In instances in which the institution has an undergraduate program in the subject area or field in question, has the undergraduate program been fully accredited by the appropriate accrediting agency?

f. The cost implications of the proposed program - both current and capital costs. What is estimated to be the total cost of instituting a high quality program in the institution in the field in question - both immediate and long range costs?

g. The relationship of the proposed new program to future aspirations of the institution. Is the proposed program the first of several curricular steps the institution has in mind in reaching a long term goal? What are the next steps to be, if the Board approves the program presently proposed?

h. Projected student credit hour cost of instruction in the proposed program. Given the estimated costs of operating a program of excellence in the fields in question and the number of students who can be expected to enroll, will the student credit hour cost of the program be a reasonable one? If not, can the student credit hour cost be justified on any rational basis?

2. The Board will seek to inform itself concerning at least three other relevant questions:

   a. What is likely to be the impact of the proposed program upon similar programs in the State System? Professional programs tend to be expensive programs. If, by the addition of a second or third graduate and/or professional program in the same field in the State System, there would appear to be a threat to the continued accreditation of an existing program, the Board will wish to give approval to the new program only if the advantages to the State System of such approval outweigh the disadvantages.

   b. Can the same program be offered more efficiently or to the benefit of more students in some other institution of the State System?

   c. What other alternative means are there for meeting the needs which have been identified in the proposal?

General Policies Applying to Professional Programs

The following general policies will guide the Board in assessing institutional requests for authorization of professional programs. The Board will:

1. Approve a new professional program only if the Board feels assured of the availability, at the time or in the immediate future, of sufficient funds to develop the program to a respectable standing, to enable it to become accredited, and, once accredited, to maintain its accreditation. Cost estimates should be in terms of an on-going, high quality program - not a minimal, beginning program.

2. Establish as a principle that new professional programs, not before offered by the State System, should be located at the most appropriate institution, considering such factors as the locus in the State System of supporting programs and other institutional or community resources required to give strength to the new program.

3. Establish the principle that as a general policy, with perhaps some provision for planned exceptions for cause, if the State System's first program in a professional field is situated at the University of Oregon or Oregon State University, the second authorized program should be developed where it can serve the largest number of students at the least personal financial cost. The program at the resident institution would serve the entire state; the second program would serve primarily the needs of the students in the region in which the institution is located.

4. Establish the general principle that the Board will be reluctant to approve any professional program that, as it is conceived, cannot, within a reasonable period of time, be accredited. A professional education should offer a student basis for advancement in the field and flexibility of employment.[1]

Character of the Institutions Within the State System of Higher Education

In the guidelines of the state system (adopted by the board in 1962), the Board of Higher Education stated that:

> . . . each institution in the System will continue to possess individual character and will develop along lines indicated by this character.[2]

The board then set forth a brief characterization of each of the institutions of the state system, to which we shall refer as we discuss the nature of the programs offered at the several institutions and what appears, from the institutional guidelines adopted by the board, to be the most likely future curricular developments of these institutions.

Oregon State University

> Oregon State University is the System's land-grant institution, and its undergraduate, graduate, and professional programs are oriented toward the sciences, both theoretical and applied, integrated with programs in the humanities and the social sciences.[3]

Oregon State has the sole allocation in the State System of Higher Education in the following fields:

- agriculture
- engineering
- home economics
- pharmacy
- forestry

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[1] Oregon State Board of Higher Education, Institutional Guidelines, Oregon State System of Higher Education (Eugene: The Board, July 27-28, 1964), pp. 2-6.

[2] Ibid., p. 13.

[3] Ibid.

It shares with other institutions in the state system allocations in professional education (preparation of teachers and auxiliary personnel for the public schools in the field of counseling). It is authorized programs from the baccalaureate through doctoral levels in professional education.

In business administration it has both baccalaureate and master's degree (MBA) programs.

In the academic areas, OSU has extensive programs leading to baccalaureate, master's, and doctoral degrees in a wide range of subject matter areas within the sciences.

In the humanities and social sciences, OSU is authorized to offer baccalaureate (four-year) degree divisional major programs and six departmental major programs.

Divisional major programs emphasize a general and integrated approach to learning, with the student's major program broadly inclusive of work in the several subject matter fields encompassed within the specific division within which the student's program lies (humanities, social science, or science). This broad fields program was initiated in humanities and social sciences at OSU as an expression of the need for general education, without a need, at the time, at OSU for the specialization represented by baccalaureate departmental major programs.

Beginning in 1965, OSU sought authorization from the board to develop baccalaureate departmental major programs in selected subject matter areas within the humanities and the social science fields, paralleling the departmental major programs in science, so long a part of OSU's offerings. Effective with the 1965-66 school year, the board authorized OSU to offer a baccalaureate major program in English, and effective with the 1966-67 school year, departmental major programs in economics, speech, political science, history, and art, and an interdepartmental program in Russian studies. It seems likely that OSU will seek further authorizations from the board in the future allowing it to add still more baccalaureate departmental major degree programs in the humanities and social sciences, eventually developing a substantial array of such programs to match the baccalaureate programs in the sciences.

A second major area in which OSU has recently manifested interest is that of technical education. For a number of years, OSU has offered two baccalaureate programs in technology (production technology and mechanical technology in agriculture). In 1966, OSU requested board authorization to offer, effective in 1966-67, four-year, terminal, technology programs in civil engineering technology, electrical power technology, and mechanical technology. Board authorization of these technology programs is the board's acknowledgement of the role that OSU has to play in technical education. It may be assumed that OSU will expand the number of its four-year terminal programs in technology, as it gets the presently authorized programs well established.

The statewide service of Oregon State University and the University of Oregon is illustrated by the geographic distribution of resident enrollments, shown in Table 52, p. 260

University of Oregon

> The University of Oregon is the System's liberal arts university, and its undergraduate, graduate, and professional programs are oriented toward or closely related to the humanities, social studies, sciences and the arts.[1]

The University of Oregon has the sole allocation in the State System of Higher Education in the fields listed at the top of page 261.

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[1] Ibid.

TABLE 52

GEOGRAPHIC DISTRIBUTION OF ENROLLMENT,[1] UNIVERSITY OF OREGON, OREGON STATE UNIVERSITY, AND PORTLAND STATE COLLEGE

	1953-54						1963-64						1964-65					
	UO		OSU		PSC		UO		OSU		PSC		UO		OSU		PSC	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Portland Metropolitan Area (Multnomah, Clackamas & Washington Counties)	921	25	1,190	28	1,873	97	1,910	24	2,266	26	6,860	93	2,097	23	2,429	26	8,301	93
Northwest except Metropolitan Area	2,042	54	2,072	49	38	2	4,805	59	4,618	53	342	5	5,418	60	4,941	54	447	5
East of Cascades	402	11	569	13	21	1	642	8	982	11	133	2	717	8	985	11	157	2
Southwestern Oregon	380	10	434	10	5	-	711	9	819	10	59	-	768	9	801	9	66	-
Totals	3,745	100	4,265	100	1,937	100	8,068	100	8,685	100	7,394	100	9,000	100	9,156	100	8,971	100

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[1] Enrollment figures are for Oregon residents, and are cumulative head count for the academic year.

Source: Office of Institutional Research, Geographic Distribution of Enrollments for All Institutions Compared for Years 1953-54, 1963-64, and 1964-65, September, 1965.

- medicine
- dentistry
- nursing
- law
- architecture
- journalism
- education for school administrators
- librarianship (beyond the basic norm program for preparation of public school librarians)

The University of Oregon has the principal allocations in the fields of:

1. Music (the only institution authorized to offer professional undergraduate and master's and doctoral programs in the field of music).

2. Professional health, physical education, and recreation (the only institution authorized to offer professional master's and doctor's programs in health and physical education, and to offer any professional degrees in the field of recreation).

3. Business administration (the only institution authorized to offer the master of science and doctoral programs in business administration).

4. Art (the only institution authorized professional undergraduate and master's degrees).

The university shares with other institutions in the state system the authorization to offer master's programs in professional education and, with Oregon State, authorization to offer doctoral degree programs. In addition to programs to prepare classroom teachers, the university prepares a wide range of specialists in its school psychological services programs.

In the specialized graduate area of school administration, the University of Oregon has full responsibility for advanced degree programs; however, cooperative programs are being developed with the other institutions whereby courses in areas in which these institutions have particular strengths - for example, curriculum - will be accepted by the university toward completion of a portion of degree requirements.

In the liberal arts, the university offers a wide range of programs through the doctoral level. In addition to the "departmental" programs, the university offers interdisciplinary undergraduate programs in general arts and letters, general social science, general science, Asian studies, and Latin American studies; master's degree programs in comparative literature, international studies, overseas administration, Asian studies, juvenile correction, public administration, and industrial and labor relations; and a doctoral program in comparative literature.

For many years major curricular additions at the University of Oregon have been directed toward completing the roster of graduate programs in the liberal arts and the related professional fields and the development of interdisciplinary programs.

In 1966, however, the Board of Higher Education approved the university's request for authorization to establish two new professional schools - the school of librarianship and the school of community service and public affairs. Both schools will draw heavily upon resources and programs already in existence at the university: the school of librarianship will take over the master's degree program for school librarians offered for many years by the school of education and develop the program so as to prepare elementary and secondary school librarians, college and university librarians, public librarians, and special librarians (e.g., medical and technical); the school of community service and public affairs will draw upon the resources already available in the traditional social science departments and related professional programs to develop programs in applied social science which will prepare students for public service careers. For the most part the school will prepare students for employment at the baccalaureate level, at least initially.

The University of Oregon may be expected to continue to seek ways in which it may better carry out its long assigned responsibilities as the system's "liberal arts university." These efforts will most likely be reflected in the development of interdisciplinary programs, both graduate and undergraduate, drawing upon resources of established disciplines, and further development and strengthening of areas of specialization within the disciplines.

Portland State College

> Portland State College is an urban institution designed primarily to meet the emerging needs of the Portland metropolitan area for state-supported higher education.[1]

Portland State College, newest and third largest of the state's multi-purpose institutions, was established as a four-year degree-granting institution in 1955. During these ten years (1955-1965) Portland State College has:

1. Developed baccalaureate degree programs in all the commonly accepted arts and letters, social science, and science disciplines and in applied science.

2. Developed baccalaureate degree programs in the professional areas of teacher education and business administration.

3. Developed certificate programs providing special preparation for baccalaureate degree students interested in area studies (Central Europe, Latin America, Middle East), law enforcement, public health, and urban studies.

4. Established a professional school of social work offering a two-year graduate program leading to the master of social work degree.

5. Developed other master's degree programs in professional education, teaching, applied science, chemistry, physics, mathematics, and a special MA in German program involving PSC's Deutsche Sommerschule and a year abroad.

In addition to the above programs, Portland State College has been authorized by the Board of Higher Education (July 1966) to begin eight additional master's degree programs during the following three years - business administration, economics, English, and history in 1967-68; biology, psychology, sociology, and speech in 1968-69. The board also authorized the college to begin, in 1968-69, preparations to offer master's degree programs in anthropology and political science. Implementation of these authorizations is dependent upon appropriation of needed funds by the 1967 Legislature.

In its rapid development of a broad array of programs for Portland State College, the board is carrying out its intent to provide higher educational opportunities for a substantial proportion of high school graduates in the metropolitan area. (See Table 52, p. 260, for geographic distribution of PSC enrollments.) Since Portland State College has a regional rather than statewide responsibility, its programs of study parallel, as far as this is economically feasible, those offered at the state's residential institutions for the state as a whole.

However, the board is not averse to locating unique programs at Portland State when the competencies of the college or the resources of the area indicate the state as a whole will be best served by this allocation. Thus, Portland State College holds sole responsibility in the system for programs listed on the following page.

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[1] Ibid.

- graduate professional social work

- instruction in certain exotic languages (Arabic, Hebrew, Persian, Hungarian, Turkish, Czech, Polish, Serbo-Croatian) offered in cooperation with the college's Middle East and Central European studies centers and supported by federal funds.

Portland State College shares with other institutions of the system responsibility for professional education programs through the master's degree level. Under this authorization PSC may prepare elementary and secondary teachers, speech correctionists, teachers of the visually handicapped, and teachers of the mentally retarded.

The needs of students interested in practically oriented science instruction, rather than the more theoretical emphasis of the traditional academic disciplines, is met at Portland State College by curricula, at both the baccalaureate and master's degree level, in "applied science."

Students interested in business are served at PSC by one of the system's four major baccalaureate programs in business.

In common with the University of Oregon, PSC offers a complete range of baccalaureate degree programs in the humanities and the social sciences, and, in common with the two universities, the college offers programs in the biological, physical, and earth sciences, and in mathematics.

The State Board of Higher Education plans for Portland State College have been spelled out in the PSC guidelines, approved by the board July 27-28, 1964, as indicated in the quotation below. The time table by which these plans will be accomplished will be determined in part by the assessment of the extent and relative urgency of the remaining unmet educational needs of the Portland area, in part by the supporting resources which may be identified or developed in the metropolitan area, and in part by the willingness of the legislature to appropriate additional state funds for the development of additional programs at PSC.

> 1. Immediately: The College should expand and develop in depth its capacity to perform those functions to which it is now committed. These include:
>
>   a. Bachelor's degree programs in all commonly accepted liberal arts disciplines, in business administration, in education, and in applied science. These programs have been markedly improved over the past years, but they need fuller development.
>
>   b. Fifth-year and master's degree programs in teacher education. Programs leading to the M. A. and M. S. in teaching and to the satisfaction of requirements for the Oregon standard certificate, planned over the years since 1958, have been approved by the Board for some time but held in abeyance pending availability of necessary financial support. Funds are now appropriated to initiate curricula in limited fields in 1963-1965; the remaining fields necessary for teachers should be added and the program broadened and strengthened throughout.
>
>   c. A master's degree program in social work. This program has been separately budgeted from the outset in 1961-62, and is developing in a satisfactory way. It will require additional resources as it grows in strength and size.
>
> 2. Within the Next Few Years: As the needs of the State require and as the economic resources of the State and those of Portland State permit, the College should inaugurate:

a. Master's degree programs in fields in which it now gives bachelor's degrees. This development is indicated primarily to meet the urgent needs of the area and thus of the state. It is indicated also because in accord with a recent report to the Coordinating Council for Graduate Study of the State System of Higher Education: 'In truth, graduate and undergraduate education live in a symbiotic relationship. The professional schools and the specialized curricula at the graduate level cannot prosper independent of a strong and flourishing liberal arts base. . . . But the graduate school, in turn, makes a substantial contribution to the undergraduate education. The atmosphere of creative thinking and of search and discovery in the graduate school helps to set the whole intellectual tone of an institution and to breed in students, both undergraduate and graduate, a taste for intellectual excellence.'

   The college is now prepared in terms of size, faculty specialization, and the undergraduate base to proceed deliberately with this development of graduate work. However, the removal of some deficiencies in equipment, library, and general staff support will be required, and in the decision to inaugurate new programs precedence should be given to those areas in which the greatest strength is at hand and where the most pressing public needs are felt.

b. Selected professional programs, at both bachelor's and master's levels, in fields which are peculiarly appropriate to a metropolitan area. Some programs can best be offered in a metropolitan area where both needs and facilities are geographically related. This principle has been long recognized by the Oregon State System of Higher Education, and a recent application is to be seen in the location of the School of Social Work. The University of Oregon's medical-dental complex is a long-established example.

c. Programs, both graduate and undergraduate, which can and should be developed in cooperation with other metropolitan area institutions, both private and public. Such programs would be a further utilization of the resources, in this case institutional resources, of the metropolis. Joint efforts with the other State System institutions, with the private colleges of the area, and with institutions yet to be established should be envisioned. The unusual, complex, and expensive facilities and capabilities of the area should be utilized.

d. An expanded research capacity fully adequate to the support of graduate work.

e. Evening and summer credit programs fully integrated with the regular college programs. There should be no distinction between day and evening work for credit. Summer offerings are traditionally dictated by the special requirements of public school teachers and those regular students who use the summer quarter to accelerate their progress.

3. Thereafter: The College should look to the development of studies beyond the master's degree and doctoral studies in selected fields. The eventual range of doctoral programs should be determined as the emerging capabilities of the College make high quality doctoral work possible, with due consideration of those fields in which the needs

of the metropolitan area are most urgent, and with consideration also to the overall planning and conservation of resources of the State System. The research capabilities of the College should be expanded in keeping with the enlarged commitments. In order to engage fully the staff and institutional resources of the community and State and to hold the costs of necessarily expensive programs to economical levels, the College should stand ready to cooperate with other State and private institutions in joint doctoral and research programs.

4. As a Continuing Function: Portland State College should undertake to play a conscious and deliberate role in the study of urban problems. Recognizing the contemporary dominance of urban culture, its increasing complexity, its creation of dynamic new social and governmental problems; and following a quickened academic and professional concern and preoccupation with urban culture; and considering that the College's milieu is the State's major metropolitan area which the College was created to serve, Portland State College should build upon its first curricular and research ventures into urban studies in three ways:

   a. Special consideration should be given to the relevance and application of various undergraduate programs to urban problems, both for increased understanding and for preparation for careers in various aspects of urban government and services.

   b. Graduate programs in urban studies should be developed, leading both to research and professional careers.

   c. In order to bring the numerous disciplines of the College to bear on the various aspects of urban affairs, an administrative entity might be established, combining research, consultative functions, and a program of urban services. It might be hoped that such a program could draw support from local, state, and federal sources.[1]

Southern Oregon College
Eastern Oregon College

Southern Oregon College is a liberal arts college serving the southern Oregon region and emphasizing the preparation of teachers, both elementary and secondary.[2]

Eastern Oregon College is a liberal arts college serving the eastern Oregon region and emphasizing the preparation of teachers, both elementary and secondary.[3]

Southern and Eastern Oregon colleges share with the other four multi-purpose institutions of the system responsibility for the preparation of elementary and secondary teachers. Teacher education programs are offered through the master's degree to prepare teachers in most of the subjects taught in the high schools.

The two colleges also offer, in common with the multi-purpose institutions, baccalaureate level general studies programs in the humanities, social sciences, and science. At Southern Oregon College, students completing a general studies program in the social sciences may arrange their course work to prepare for careers in law enforcement or in other occupations requiring a background in the behavioral sciences, such as welfare caseworker, psychometric aide, etc.

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[1] *Ibid.*, pp. 30-32.

[2] *Ibid.*, p. 13.

[3] *Ibid.*

Both institutions seek to serve to the fullest extent possible the higher educational needs of their regions. As the institutions have grown in enrollment, they have been able to employ additional staff and expand their library resources. The development of these competencies has permitted the addition of departmental baccalaureate degree programs in some of the arts and sciences and business.

Since 1963 SOC has offered a baccalaureate degree program in business, with emphasis on the needs of small business. In 1966 Eastern Oregon College, after careful study of the needs of the eastern Oregon area for a program in business and the resources of the institution which might be directed toward meeting this need, requested authorization to offer a business major under its general studies program. With the inauguration of this program fall term 1966, five of the system's six multi-purpose institutions will offer undergraduate programs in business.

Both institutions (SOC, EOC) offer departmental baccalaureate degree programs in biology, English, and history. (The state system now has five major programs in each of these fields.) Southern Oregon College offers departmental baccalaureate programs, also, in applied design, chemistry, mathematics, music, and theater. (The program in theater, with special emphasis on classical theater, is possible because of a unique community resource, the Ashland Shakespearean Festival.)

SOC and EOC may be expected to develop additional baccalaureate degree programs in arts and science areas in which they have particularly strong teacher education programs. This development may be expected to come much more rapidly at SOC than at EOC because the very rapid growth in enrollment projected for this institution will permit increased specialization of faculty even before authorization of additional baccalaureate programs. By the time SOC reaches an enrollment of 5,000 FTE students projected for 1971-72, it quite probably will be offering departmental baccalaureate degree programs in all the basic arts and science areas, a development corresponding to that of Portland State College at the 5,000 enrollment mark.

At both institutions, graduate programs for teachers, now offered chiefly during the summer terms, will be gradually strengthened. Whether some of these will develop subject field strength to warrant authorization of departmental master's degree programs in subject fields is a matter of conjecture, although such a possibility is not prohibited by present board policy. There are no state board plans, at present (1966), for requesting special appropriations of funds to speed development of graduate programs at SOC and EOC, as is being done for Portland State. With the continuing success of the Ashland Shakespearean Festival and plans of the Festival Association to build an indoor theater, SOC's desire to offer a master of fine arts program in theater with emphasis in classical theater may well become a reality. Such a program has already been presented to the State Board of Higher Education, but consideration was deferred to permit SOC and the board to have the benefit of some years of experience with the college's BFA in theater program.

Southern Oregon College has demonstrated considerable interest in the health science fields and is developing a series of cooperative programs wherein the student completes preprofessional preparation at SOC and professional training at an appropriate professional school. While completion of the preprofessional program does not guarantee admission to the professional school, SOC preprofessional programs are becoming increasingly well known both among the professional schools to which it directs its students and among the students themselves. It may be expected that SOC will continue to develop health science programs within its competencies and responsibilities as a regional liberal arts college.

Expansion of curricular offerings at EOC, an institution serving a large but sparsely populated region which is also served by three community colleges, may be expected to proceed at a much slower pace than at SOC, because its smaller enrollment will not support a great many specialized programs. As shown in Table 53, p. 268, a portion of SOC's growth has been the result of its increasing attractiveness to students from outside the southern Oregon region. As its enrollments increase, SOC can offer a wider range of curricular programs, thus better carrying out its regional responsibilities. A similar increase in statewide service, should it come, would provide enrollment growth needed at Eastern Oregon College to support an increase in the number of baccalaureate degree curricula.

Oregon College of Education

> Oregon College of Education is a liberal arts college with special emphasis on the preparation of elementary and secondary teachers and research in teacher education.[1]

OCE shares responsibilities for teacher education with the five other multi-purpose institutions of the system, but by tradition and inclination, OCE alone has devoted its energies almost exclusively to this responsibility. OCE not only prepares classroom teachers for the elementary and secondary schools with undergraduate and graduate programs, but also prepares persons especially trained in speech correction, teachers for students with extreme learning problems, the mentally retarded, and the deaf.

In support of its teacher education programs, OCE is developing increasingly strong academic resources. The college offers general studies programs in the humanities, social science, and science, and these programs serve a regional need for students in the Monmouth-Salem area who wish general education or preprofessional preparation.

Undoubtedly Oregon College of Education will further strengthen its programs in teacher education, particularly at the graduate level. Whether it will direct more of its energies toward serving the students in its commuting area who are not interested in teaching can only be conjectured. It is the committee's belief that OCE's growing academic resources could serve many young people residing in the Monmouth-Salem area, without diluting or impairing its services to teacher education, by the development of baccalaureate degree programs in academic areas of greatest student interest and academic strength.

Oregon Technical Institute

> Oregon Technical Institute is a specialized institution designed to provide opportunity for study in technical areas of selected curricula, including opportunities both for graduates of high schools and for those students who have had some technical preparation.[2]

The curricular development of Oregon Technical Institute - history, present responsibilities, and plans for the future - were discussed in considerable detail in Chapter V, pp. 116-121. The committee would like here only to comment that the administration and faculty of Oregon Technical Institute, the various individuals and groups who over the years have studied technical education in Oregon, the State Board of Education and its staff, members of the legislature, and, since 1959, the State Board of Higher Education and its staff have devoted a great deal of attention toward assuring that Oregon Technical Institute would become a leader in technical education. Rather than turning its back on the whole snarled field of technical education and seeking to become something else, or settling back into an ordinary "vo-tech" school, OTI has, with initiative and imagination, developed programs in

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[1] Ibid.

[2] Ibid.

TABLE 53

GEOGRAPHIC DISTRIBUTION OF ENROLLMENT,[1] OREGON COLLEGE OF EDUCATION, SOUTHERN OREGON COLLEGE, AND EASTERN OREGON COLLEGE

	1953-54						1963-64						1964-65					
	OCE		SOC		EOC		OCE		SOC		EOC		OCE		SOC		EOC	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Willamette Valley and North Coast	515	93	47	6	21	4	1,368	90	319	13	81	6	1,700	91	448	15	94	7
East of Cascades Except Klamath & Lake Counties	19	4	10	1	509	95	81	5	46	2	1,214	93	92	5	46	2	1,221	91
Southwestern Oregon Including Klamath and Lake Counties	17	3	708	93	4	1	80	5	2,117	85	17	1	81	4	2,448	83	22	2
Totals	551	100	765	100	534	100	1,529	100	2,482	100	1,312	100	1,873	100	2,942	100	1,337	100

[1] Enrollment figures are for Oregon residents, and are cumulative head count for the academic year.

Source: Office of Institutional Research, Geographic Distribution of Enrollments for All Institutions Compared for Years 1953-54, 1963-64, and 1964-65, September, 1965.

technical education which are well recognized outside the boundaries of the state as well as within.

In 1966-67 OTI will offer 19 different programs in the business, engineering technology, mechanical technology, and medical-dental technology fields. Sixteen of these are two-year programs; one, in electro-mechanical engineering technology, is a three-year program; one, medical radiologic technology, requires two years on campus and five terms (15 months) of approved hospital externship; and one, medical laboratory technology, is a four-year program leading to a bachelor of technology degree, consisting of three years on the OTI campus and one year at an AMA-approved hospital school.

Board authorization of four-year baccalaureate degree (BT) programs in engineering technologies is anticipated as soon as OTI completes preparatory strengthening of its faculty and library.

Over its more than 20 years of operation, as it identified its role in technical education, OTI has eliminated 20 programs. This process will undoubtedly continue with the more vocationally oriented programs either up-graded into genuinely technical offerings or dropped. The very specialized staff and facilities of OTI increasingly will be used for the kind of technical programs which, because of their requirements of staff and equipment, are best offered at a residential institution serving the entire state.

With inauguration of four-year baccalaureate programs in the engineering technologies, OTI will serve an increasingly important role by providing transfer opportunities for graduates from appropriate two-year programs of the community colleges.

The State Board of Higher Education has stated that it does not wish OTI to be diverted from its responsibilities in technical education by assignment of regional responsibilities for lower-division liberal arts courses. These lower-division courses are now offered on the OTI campus during the late afternoon and evening hours by Southern Oregon College and other institutions of the system through the services of the Division of Continuing Education.

University of Oregon Medical School
University of Oregon Dental School

> The University of Oregon Medical School has the mission of preparing physicians, nurses, and related technicians; providing graduate and postgraduate educational training for physicians; and extending the boundaries of learning in the medical sciences.[1]
>
> The University of Oregon Dental School has the mission of preparing individuals for the practice of dentistry and selected ancillary services; providing continuing education in dentistry and allied sciences through graduate and postgraduate programs; and expanding the boundaries of knowledge through research.[2]

The University of Oregon Medical School offers a four-year program in medicine leading to the MD degree; graduate programs in the basic medical sciences (anatomy, bacteriology, biochemistry, medical psychology, pathology, pharmacology, and physiology) leading to the MS and PhD degrees; a master's degree program in medical technology; a twelve-month internship program in hospital dietetics; one-year internship and two- to five-year residency programs for the training of physicians in the medical specialities; and an extensive post-graduate program consisting of series of short intensive courses scheduled throughout the year. A combined program leading to both medical and basic science graduate degrees is also offered.

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[1] Ibid.

[2] Ibid., p. 14.

Admission to all of these programs is strictly limited to the number of students which can be accommodated, and, with the possible exception of medical technology where more enrollments could be accepted, is highly competitive. All the programs are upper-division, graduate, or postgraduate in nature except the two-year program to train radiologic technicians, which may be entered directly from high school.

Nursing programs are offered on the Medical School campus by the School of Nursing. Three programs are available:

1. A basic baccalaureate degree curriculum for the preparation of professional nurses. This program is four academic years and one summer term in length; the first year of the program is completed at an accredited college or university prior to transfer to the School of Nursing.

2. A baccalaureate degree curriculum for registered nurses. This program is planned for graduates of diploma-school programs. Students complete general education requirements at any accredited college or university and four terms of work at the School of Nursing.

3. A master of science in nursing education to prepare graduate nurses for teaching or other positions of leadership.

The University of Oregon Dental School offers a four-year curriculum for the preparation of dentists leading to the DDM degree; graduate programs in bacteriology, biochemistry, anatomy, operative dentistry and dental materials, pathology, orthodontics, pedodontics, pharmacology, and physiology leading to the MS degree; a two-year program for the education of dental hygienists; and one-year postgraduate courses in clinical areas and various short-term refresher courses for the graduate dentist. All of these programs are upper division or graduate in nature except the curriculum in dental hygiene, which may be entered by qualified students directly from high school.

For the future it may be expected that the University of Oregon Medical, Dental, and Nursing schools will continue their present high level of service to the state. However, the number of persons who can be admitted to each health science program is absolutely limited by facilities available for this training. With the possible exception of the medical technician program, the schools are operating at near 100 percent capacity.

Division of Continuing Education

> The Division of Continuing Education is an administrative unit of the Chancellor's Office responsible for providing the management by which instructional and service offerings of the Oregon State System of Higher Education are extended for continuing higher education opportunities.[1]

The Division of Continuing Education offers classes, both credit and non-credit, in all the major population centers of the state and many of the smaller communities. Classes meet during the evening hours in campus facilities of the state system institutions or the community colleges or, in non-campus communities, in the local high school or other facilities which may be available. The division administers credit courses offered through its services by the institutions of the state system and organizes non-credit programs, but offers no courses for credit of its own. Instructors are members of the staffs of the system institutions or persons approved by them. The division does not extend lower-division courses into areas served by the community colleges in competition with these institutions. In addition to evening classes, the division offers correspondence instruction, telecourses, workshops, institutes, and consultant services to business and professional groups. These programs, most of which are almost entirely self-supporting, are organized as a direct response to identification of need.

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[1] Ibid.

Enrollments in courses offered through the division are substantial, as seen in Table 54. With a growing population, possessing greater awareness of need for education, higher personal incomes, and more leisure time, it may be expected that programs for continuing education will increase markedly during the years ahead.

TABLE 54

CONTINUING EDUCATION ENROLLMENTS[1]
1964-65 and 1965-66

Program	1964-65 Fall	Winter	Spring	1965-66 Fall	Winter	Spring
1	2	3	4	5	6	7
Credit Courses						
Portland Center	5,370	4,435	4,589	5,580	4,572	4,255
Centers Outside Portland	4,559	4,534	4,816	4,684	4,747	5,459
Correspondence Study (new students)		- 2,555 -			- 2,455 -	
Non-Credit Courses						
Portland Center	--	--	--	948	749	544
Centers Outside Portland	--	--	--	151	163	124

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[1] Head count by course. An enrollment is one student enrolling in one course.
Source: State Board of Higher Education, Office of Institutional Research.

Board Policies Re: Building Usage Standards and Building Planning

In the area of building usage and building planning, the board has taken the following steps:

1. The board has adopted space utilization and space-use standards for the state system. These standards indicate what the board considers defensible standards of use of buildings. They form the basis upon which the institutions determine existing building capacities, and in terms of which they plan for needed new construction to meet increasing student enrollments.

   It is instructive to note that the Oregon State System building utilization standards for its colleges and universities are the same as: (1) those set up in the master plan of the University of California in 1960 and still in use there, (2) those used in projecting space needs for Oklahoma institutions of higher education in 1964, and (3) those used in developing recommendations concerning capital construction needs of the colleges and universities of Illinois in 1964. All of these states have carried out detailed studies of facilities utilization and planning. These state system building utilization standards are discussed in Chapter XIV.

Capital Construction Policies of the State Department of Higher Education

The capital construction policies of the board include the following provisions:

1. Master campus plans are to be developed and adopted for each institution.

2. Minimum requirements for admission of residents and non-resident students to state system institutions are established and approved by the board.

3. Space-use objectives established by the board are used as a guide in planning construction needs in the light of the existing capacity of the physical plants at the colleges and universities and the anticipated growth of enrollment in these institutions.

In support of the foregoing policies, the institutions and the board's office have taken the following action:

1. Enrollments for the state system institutions are projected ahead annually for each institution ten years into the future. Such annual ten-year projections permit the institutions and the board's office to take into account such necessary changes in their estimating techniques as changing conditions warrant, yet maintain a ten-year advance look at enrollments in terms of current and projected conditions.

2. An inventory of existing facilities for each institution is maintained in an up-to-date status.

3. Annually space-use studies for each institution are completed.

4. Additional space-use needs for each institution are determined on a projected base (projected three bienniums ahead), utilizing enrollment projections, the space inventory, space-use studies, standards of space use established by the board, knowledge of the state of obsolescence of existing buildings, and the assigned functions of the institutions.

5. A system-wide priority list for the biennium immediately ahead is prepared as the basis for the board's request for funds to meet capital construction needs. The board's recommendation as to priority listing of capital construction, land purchase, and architectural-engineering planning for the 1967-1969 biennium is presented in Chapter XIV, Table 82, p. 374. The preparation of this priority listing is shared jointly by the institutions and the board's office. Each institution develops a priority listing of the capital construction projects it desires to have considered for funding in the next biennium. The institution makes its calculation of need on the basis of planning guides and planning policies adopted by the board for planning purposes. The melding of the institutional priorities to produce a priority listing for the entire state system is a function of the board's office.

It is interesting to note that capital construction projects involving state funds are reviewed on at least six levels - by the institutional executives, the board's office staff, the Board of Higher Education, the Department of Finance and Administration, the Ways and Means Committee of the legislature, and the Emergency Board.

Admissions Policies in State System Institutions

Policies governing admission to the state system institutions are approved by the Board of Higher Education for each of the institutions. They are discussed briefly in Chapter IV.

Budgetary Policies

The guidelines for institutional use in the preparation of the biennial and the annual budgets are prepared by the board's office. The institutional budgets thus are consistent with state system objectives and principles, and in the aggregate, when approved by the Board of Higher Education for submission to the state legislative assembly, represent an expression of the board's views of the budgetary needs for the next biennium. The presentation of the state system budget and its defense is made by the members of the Board of Higher Education, the Chancellor and his staff, and such representatives of the institutions as the Chancellor may from time to time invite to participate. Quite obviously, the development of the budgetary documents requires the prior development and adoption of policies governing such matters as the student-teacher ratio to be used as a planning figure, the salary schedules to be operative in the state system institutions, and similar such policy matters. These, too, are matters whose final determination is a board function.

Recommendations

The committee is of the opinion that:

1. The integrated planning and administration of the public four-year colleges and universities under the State Board of Higher Education has served the state's educational interests well. This is not to suggest that the ultimate in integrated planning has been attained in the state system. It has not. But the structure provided by the State System of Higher Education provides the surest means, in the committee's judgment, of further improving integrated planning for public four-year higher education in Oregon.

2. It has been, and continues to be in the best interests of post-high school education in Oregon for the State Board of Higher Education to have been given, until the community college is accredited, responsibility for the approval of college transfer courses in the community colleges and the instructors employed to teach them.

3. The concept of a flexible curricular allocations system for the development of curricula in the state system, as it has been defined by the Board in the state system guidelines statement earlier quoted in this chapter, is a defensible concept which offers the basis for an enlightened restraint upon unwise proliferation of programs among institutions, without fixing upon the curricular patterns of institutions the dead hand of meaningless custom or tradition.

4. The plan of the Board of Higher Education to develop Portland State College as a third state system university, as the need becomes evident and the resources available, is a plan which we endorse.

5. The Board's emphasis upon OTI's mission in the Oregon State System of Higher Education as being that of offering high-quality technical programs at the two and three-year associate degree levels and the four-year baccalaureate level is sound.

6. We think it essential that there be developed now a clear explication of the nature of the transfer possibilities of students in technical education programs at the community colleges, Oregon Technical Institute, and Oregon State University. This statement would provide in the technical field the same kind of clear statement of relationships as has been developed for relating the college transfer programs of the community colleges to the programs available in the four-year colleges and universities.

7. Study should be made of the potential need for doctors, dentists, and nurses with a view to planning the long-range development of the medical, dental, and nursing

schools to meet the expanding needs in these fields. At present these schools are operating at the capacity permitted by their facilities. These capacities have remained unchanged for a number of years. If it may be assumed that these capacities were adequate when established at their present level some years ago, it seems likely that they are inadequate in terms of the greatly expanding needs for personnel in these fields. The post-high school study committee had neither the resources nor the time to accumulate the necessary data upon which to base an assessment of the extent of the expansion required in these fields if the future needs of the state are to be met. These studies should be a first order of business.

8. Steps should be taken to secure the accreditation of the master of science in nursing education program offered at the University of Oregon School of Nursing in Portland. There is a nation-wide demand for graduates of master's degree programs in nursing to fill leadership and teaching positions in the field. In self-interest, Oregon should have at least one accredited graduate program in nursing. At present it has none. The foregoing school is the only one in Oregon now offering a master's program in nursing. We believe that the interests of the state would be well served if this program were brought to a state permitting it to seek appropriate accreditation.

9. Further study should be given to the total area of physical plant planning in the state system, as a part of an overall board's office reassessment of the potential physical plant needs of the future. This recommendation is not to imply that the planning of facilities in the state system has been or is now faulty. It is simply a recognition of the fact that staff limitations have restricted the extensiveness of the studies of facilities needs and planning that has been possible. The committee on post-high school education has, in Chapter XIV, recommended that the planning funds available through the Higher Education Facilities Act be sought for a comprehensive study for facilities planning in Oregon, some part of which would be devoted to a study of state system needs.

10. Without wishing at this juncture to endorse the as-yet unformulated findings of the study of accounting, budgeting, and data processing procedures in the state system, which is presently under way (1966), we wish to emphasize the need for continuing study of these processes in the state system, if the system is to profit from the most efficient management.

CHAPTER X

Independent Colleges and Universities

This chapter will consider the role of the independent colleges and universities in plans for post-high school education in Oregon.

Never have so many difficult tasks been asked of higher education. It has generally been agreed that the future of the American Dream will be determined by the quality of the nation's educational system - by the nation's colleges and universities and the men and women who study therein.

With the many and complex tasks confronting Oregon, it is mandatory in the eyes of this committee that the state look less toward institutional prerogatives and classifications (i.e., public and independent) and more toward the consideration of ways by which all the educational institutions within the state can serve the increasingly complex needs of society.

It is helpful to an understanding of the role herein outlined for the independent colleges and universities to recognize the nature of these institutions:

1. They are non-profit institutions with all revenues returned to their educational programs.
2. They cannot accurately be called "private" institutions. The measure of their "public" or "public-trust" character is seen in the following summary:
    a. Each participates in community activities in many ways.

    b. Each cooperates with city, state, and federal agencies through contributed services, contracted programs, research projects, and in many other ways. Not the least of these efforts has been working with the community colleges and the institutions in the State System of Higher Education in the development and implementation of this master plan.

    c. Each receives from the city, state, and federal governments significant tax exemption: on real estate, operations, utilities, etc.

    d. Individual and corporate gifts received by the independent colleges and universities qualify as deductions on state and federal income tax reports, reflecting an indirect subsidy of vital importance to the institutions. The wide diversity of corporations, foundations, churches, civic and social agencies, and individuals giving these gifts is, in itself, a significant measure of the "public" nature of the independent colleges and universities.

    e. The independent colleges and universities receive substantial financial assistance, both directly and indirectly, from the federal government:

        (1) Low-interest loans for the construction of the income-earning housing and related facilities, such as student unions and dining halls;

(2) Grants and low-interest loans for assistance in constructing libraries, classrooms, laboratories, and other educational facilities;

(3) Grants for library development, graduate fellowships, and for an increasing number of specialized institutes (i.e., foreign languages);

(4) Grants for scientific and other teaching apparatus and for a rapidly expanded number of research projects.

f. The independent colleges and universities participate in the Oregon state scholarship program (cash awards program). Students attending these institutions received 83 state cash scholarships valued at $31,533 in the academic year 1964-65.

g. Each of the independent colleges and universities, however selective, or whatever its church affiliations, admits students of all races, creeds, and religions.

h. Each states its purpose in terms of developing increasingly responsible citizens of increasingly greater capacity and of high ethical and moral standards.

The main attempt of this summary is to indicate that the purely "private" college or university no longer exists. All independent colleges and universities have a significant public role which they play, accepting with the role its concurrent responsibilities.

This public-trust character of the independent colleges and universities explains in great part the expectations assigned them in this state plan for Oregon.

Independence

Perhaps more important to the public than the public-trust responsibilities of the independent colleges and universities is their independence.

They retain their independence of operation and can at any time choose to reject a request or a grant from any governmental or private source to undertake a project which would be contrary to their stated institutional purpose.

The special contributions expected of institutions independent of the state and federal governments in policy formulation cannot be exaggerated. A summary of these contributions follows, and this committee considers it vital to the future welfare of the educational system in Oregon that these values be recognized and that, to preserve them, every effort be made to secure the future of the independent educational institutions serving Oregon.

1. They are a crucial outpost of social criticism, such critism being far more protected from retaliation than in the case of the public colleges and universities.

   The public's interest in preserving this freedom of criticism is generally recognized. History clearly shows that the currently unpopular view, when adequately presented, in the long run develops significantly more objective public opinion and public policy.

2. They can assume a leadership role through experimentation and innovation; they are relatively free to act quickly. Public scrutiny often results in more attention to failures than to successes. This is understandably an inhibiting factor for public institutions and may keep them from accepting a challenge which independent institutions can readily accept.

3. They are, for the most part, older institutions, formed in pioneering days, and have developed specialized programs and strengths which are unique and valuable to the total cultural and educational development of the state.

4. They help establish the wide diversity of post-high school educational alternatives desirable in any state.

   By choice, some of them may assure the continued option of a relatively small liberal arts college when increasing enrollment is rapidly changing the size and character of the public institutions.

5. Their continued existence provides a valuable reference point for the public from which to evaluate the educational and financial performance of the public institutions.

6. They allow more room for analysis of admissions criteria. Cutoff points on GPA (i.e., 2.25 or 2.5) are not explicitly required and many other factors can be considered, assuring educational opportunities for many who might otherwise be denied them.

Size

The independent colleges and universities in Oregon constitute a significant segment of the total post-high school educational establishments in the state. Together they represent a physical plant valued at $63,716,500 (replacement value), with a combined faculty of 785 (FTE) serving 11,398 students (1965-66); approximately one in five of all students enrolled in colleges and universities in Oregon.

They each have master plans contemplating further development of their physical facilities and expansion of their role, including service to a gradually increasing number of students.

Enrollment

Although the proportion of the total state enrollment is somewhat lower on independent campuses than in past years, their total number of students increases with each academic year (Table 55, p. 278).

One of the most significant trends indicated by the statistics on enrollments is the increase in number and percentage of out-of-state students (Table 56, p. 279).

Thus, the independent institutions anticipate enrolling more Oregon students, but the Oregon students will represent a smaller percentage of the independent institutions' enrollments.

This trend is verified by the statistics on in-residence students through which the independent institutions indicate that their room-and-board populations will represent a greater percentage on their campuses than will commuting students. From 48 percent in 1961-62, this percentage is expected to move to 50 percent in 1970, with several of the four-year institutions having more than 60 percent of their students on campus (Table 57, p. 280). They will undoubtedly continue to expand the areas from which they recruit students.

Admission Procedures

The major thread in the admissions practices of the independent colleges and universities is the emphasis placed upon individual consideration of each applicant and his possibility for success in his academic objective. The high school grade point average is a unanimous criterion for evaluation, and eight institutions require the

TABLE 55

INDEPENDENT COLLEGES AND UNIVERSITIES
ANNUAL FULL-TIME EQUIVALENCY OF STUDENTS

Institution	59-60	60-61	61-62	62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Four-Year Colleges:[1]																
Cascade[2]	216	238	255	267	260	314	319	325	350	350	350	350	350	350	350	350
Geo. Fox[3]	150	170	185	205	260	300	325	350	380	410	430	480	510	525	550	580
L & Clark	1,003	1,016	1,038	1,062	1,130	1,262	1,510	1,600	1,650	1,700	1,750	1,800	1,850	1,900	1,950	2,000
Linfield	867	900	933	980	1,033	1,066	1,113	1,167	1,200	1,267	1,267	1,340	1,367	1,379	1,379	1,379
Marylhurst[4]	458	470	500	511	535	540	545	550	585	595	635	680	720	740	780	780
Mt. Angel[5]	134	209	242	247	302	310	400	460	520	580	640	730	830	930	1,060	1,150
Pacific	701	712	823	890	913	941	1,030	1,120	1,125	1,180	1,250	1,260	1,300	1,350	1,390	1,410
Reed[6]	703	703	739	769	821	862	928	985	1,055	1,125	1,125	1,125	1,125	1,125	1,125	1,125
U of Port.	1,462	1,645	1,720	1,667	1,662	1,703	1,730	1,790	1,860	1,970	2,030	2,090	2,140	2,200	2,225	2,310
War. Pac.	-	-	179	179	231	268	305	348	399	456	522	606	691	775	860	963
Willamette	1,128	1,203	1,307	1,285	1,405	1,420	1,464	1,535	1,620	1,685	1,750	1,820	1,865	1,895	1,895	1,895
Sub-Total	6,822	7,266	7,921	8,062	8,552	8,986	9,669	10,230	10,744	11,318	11,749	12,281	12,748	13,169	13,564	13,942
Two-Year Colleges:[1]																
Multnomah	302	339	480	1,212	1,520	1,720	1,729	1,944	2,187	2,430	2,673	2,915	3,159	3,402	3,645	3,888
Total	7,124	7,605	8,401	9,274	10,072	10,706	11,398	12,174	12,931	13,748	14,422	15,196	15,907	16,571	17,209	17,830

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[1] Concordia College, Judson Baptist College, and Northwestern Christian College, special purpose institutions, are not included in this table, but, except for Judson Baptist, are included in independent totals given in Table 7, p. 24.

[2] 1960 to 1975 is fall FTE. No new estimate beyond 1967-68.

[3] 1966 to 1975 is fall FTE.

[4] Up to 1960 12 hours basis full time; after 1960 10 hours basis full time.

[5] 12 semester hours = full time.

[6] Reed did not estimate beyond 1968-69; 1968-69 figures are repeated.

Source: Independent colleges and universities.

TABLE 56

INDEPENDENT COLLEGES AND UNIVERSITIES
FALL-TERM HEAD-COUNT ENROLLMENT BY INSTITUTION AND HOME ORIGIN OF STUDENTS

Institution	1961-62					1964-65					1969-70				
	In State	Out of State	For-eign	Total	Percent In State	In State	Out of State	For-eign	Total	Percent In State	In State	Out of State	For-eign	Total	Percent In State
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cascade	195	93	14	302	64.6	245	108	17	370	66.2	260	120	20	400	65.0
George Fox	118	73	6	197	59.9	200	128	8	336	59.5	285	201	15	501	56.9
L & Clark	647	447	22	1,116	58.0	692	613	38	1,343	51.5	1,011	829	60	1,900	53.2
Linfield	590	350	14	954	61.8	660	403	19	1,082	61.0	750	520	30	1,300	57.7
Marylhurst	511	150	12	673	75.9	508	225	9	742	68.5	520	357	18	895	58.1
Mt. Angel	273	39	9	321	85.0	304	43	5	352	86.4	583	90	7	680	85.7
Pacific	502	341	25	868	57.8	369	551	81	1,001	36.9	540	810	50	1,400	38.6
Reed	213	613	11	837	25.4	272	717	26	1,015	26.8	351[1]	927[1]	34[1]	1,312[1]	26.8
U of Port	1,153	599	59	1,811	63.7	1,084	688	69	1,841	58.9	1,130	1,000	80	2,210	51.1
War. Pac.	31	170	15	216	14.4	79	206	15	300	26.3	200	355	45	600	33.3
Willamette	822	500	24	1,346	61.1	828	609	17	1,454	56.9	950	810	20	1,780	53.4
TOTAL	5,055	3,375	211	8,641	58.5	5,241	4,291	304	9,836	53.3	6,580	6,019	379	12,978	(52.7)
Percent of Total	58.5	39.1	2.4	100.0		53.3	43.6	3.1	100.0		52.7	46.2	1.1	100.0	

[1] 1968-69, last year estimated, was used.

Note: Percents may not total 100 because of rounding.

Source: Independent colleges and universities.

TABLE 57

INDEPENDENT COLLEGES AND UNIVERSITIES
FALL-TERM HEAD-COUNT ENROLLMENT BY INSTITUTION AND HOUSING

Institution	1961-62					1964-65					1969-70				
	On Campus	Off Campus	Total	Percent[1] On	Percent[1] Off	On Campus	Off Campus	Total	Percent[1] On	Percent[1] Off	On Campus	Off Campus	Total	Percent[1] On	Percent[1] Off
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cascade	150	152	302	49.7	50.3	182	188	370	49.2	50.8	-	-	-	-	-
George Fox	81	116	197	41.1	58.9	204	132	336	60.7	39.3	330	171	501	65.0	34.1
Lewis & Clark	500	616	1,116	44.8	55.2	906	437	1,343	67.5	32.5	1,100	800	1,900	57.9	42.1
Linfield	660	294	954	69.2	30.8	730	352	1,082	67.5	32.5	900	400	1,300	69.2	30.8
Marylhurst	254	419	673	60.6	39.4	316	426	742	42.6	57.4	450	445	895	50.3	49.7
Mt. Angel	119	202	321	37.1	62.9	130	222	352	36.9	63.1	320	360	680	47.0	53.0
Pacific	499	369	868	57.5	42.5	465	536	1,001	46.5	53.5	835	565	1,400	59.6	40.4
Reed	457	380	837	54.6	45.4	525	490	1,015	51.7	48.3	525	787	1,312	40.0	60.0
U of Portland	678	1,133	1,811	37.4	62.6	729	1,112	1,841	39.6	60.4	1,070	1,140	2,210	48.4	51.6
Warner Pacific	128	88	216	59.3	40.7	210	90	300	70.0	30.0	420	180	600	70.0	30.0
Willamette	759	587	1,346	56.4	43.6	846	608	1,454	58.2	41.8	1,116	664	1,780	62.7	37.3
Multnomah	250	493	743	33.6	66.4	250	1,937	2,187	11.4	88.6	750	2,250	3,000	25.0	75.0
TOTAL	4,535	4,849	9,384	48.3	51.7	5,493	6,530	12,023	45.7	54.3	7,816	7,762	15,578	50.2	49.8

[1] Denotes percentage of students resident on campus (on) or nonresident (off).

Source: Independent colleges and universities.

Scholastic Aptitude Tests of the College Entrance Examination Board. All look closely at references, and a number of the schools used a variety of other criteria for student selection, including rank in class, interviews, alumni recommendations, etc.

The combinations of these criteria for admission show increasing selectivity at a number of the independent schools. There is every reason to believe that the independent institutions will become increasingly selective as they reach enrollment goals and admit a smaller percentage of the larger numbers of students applying in the years ahead.

Tuition and Fees

The charges for an independent school education keep rising and will continue to do so in the years ahead, according to the forecasts of the individual schools. Table 58 indicates that the tuition at all the reporting schools except Multnomah College rose substantially from 1955 to 1964. The lowest percentage increase was 69 percent and the highest was 228 percent. Although some of the schools did not attempt to predict actual tuition charges by 1974-75, those that did all indicated increases from 1964-65 ranging upward from 25 percent to 134 percent.

TABLE 58

INDEPENDENT COLLEGES AND UNIVERSITIES
AMOUNT ASSESSED FOR TUITION AND FEES[1] BY INSTITUTION,
ACTUAL 1955-56 - 1964-65, ESTIMATED 1969-70 - 1974-75

						Percent Increase	
Institution	1955-56	1959-60	1964-65	1969-70	1974-75	1955-56 to 1964-65	1964-65 to 1974-75 (est.)
1	2	3	4	5	6	7	8
Cascade	$345	$ 525	$ 891	$ -	$ -	158.3	-
George Fox	339	542	915	1,326	1,375	169.9	50.3
Lewis and Clark	550	710	1,265	1,700	2,100	130.0	60.5
Linfield	480	600	900	1,200	1,300	87.5	44.4
Marylhurst	333	436	720	1,200	-	116.2	-
Mt. Angel	195	390	640	1,200	1,500	228.2	134.4
Pacific	580	753	980	1,300	1,300	69.0	32.7
Reed	720	1,099	1,748	2,160	-	142.8	-
U. of Portland	510	674	876	1,276	1,676	71.8	91.3
Warner Pacific	237	334	775	1,160	-	227.0	-
Willamette	490	700	975	1,395	1,495	99.0	53.3
Multnumah	410	410	410	510	510	0.0	25.0

[1] Includes all fees except those reported as optional.
Source: Independent colleges and universities.

Student Financial Assistance

The independent colleges are making substantial efforts to assist students to meet the rising costs of education. Through their own efforts and assistance from recent federal programs they have increased the amount of assistance to students fivefold from 1955-56 to 1964-65. (Table 59, p. 282. Figures in Table 59 include student assistance available to both undergraduate and graduate students. The totals given in Table 19, Chapter IV, p. 72, are for undergraduate students only.)

TABLE 59

STUDENT FINANCIAL AID, INDEPENDENT COLLEGES AND UNIVERSITIES
1955-56 and 1964-65

	1955-56		1964-65	
	Number	Amount	Number	Amount
1	2	3	4	5
Grants[1]	415	$223,857	2,290	$1,302,010
Loans	256	64,293	1,445	719,151
Employment[1]	1,219	212,090	2,871	584,029
TOTALS	*	$500,240	*	$2,605,190

[1] The figures here do not include the new grant program under the Higher Education Act of 1965, nor the work study program which the federal government made available during 1964-65.

*Totals under number of students assisted are not given for there was no way to obtain an unduplicated figure. A number of students receive assistance under two or more forms of aid.

The "package program" of student assistance has become general at the independent schools. This approach consists of determining the financial needs of the individual student and then offering assistance through one or a combination of aid forms, including grants, loans, or employment. Simultaneously, there has been a gradual shift in the criteria upon which student aid is distributed. This shift is emphasized by the use of the word "grant" rather than "scholarship" as the schools use "need" as an increasingly important criterion rather than academic achievement alone. The federal programs of assistance which are based upon need have had a major impact upon criteria, along with the recognition by the schools that they must invest more heavily in student aid in order to maintain diversification in the student body in the face of rising tuition.

Post-High School Transition

Much has been done by the independent colleges and universities to acquaint interested students with the opportunities available to them on their campuses. Visitations to the high schools, literature, and campus visits have all been used, along with special information programs for counselors.

High school visitations have been conducted on a cooperative basis with the Pacific Northwest Association of College Admissions Counselors in order to lessen the demands upon the time and schedule of the high schools visited. In one form or another, direct visits to high schools or joint sessions at one centrally located high school, almost 100 percent of the students in Oregon interested in post-high school education are contacted by admissions personnel from the independent schools.

1. It is recommended that the independent schools endorse and cooperate with the recommendations on post-high school transition developed by the state office of high school-college relations.

2. It is recommended that the community colleges and the independent colleges and universities develop more effective reciprocal communications to their mutual

advantage, developing information about programs which are available at the respective institutions and the courses for which credit will be transferable.

3. A program of visitations to the community colleges is also recommended wherein the independent institutions provide the same carefully organized assistance to counselors and students as under the existing program with the high schools throughout the state.

Staff Utilization

Almost all the independent colleges have explored some form of improving staff utilization, with the greatest emphasis being placed on larger lecture units, independent study, and laboratory activity (Table 60, p. 284). Programed learning, teaching machines, and television have had limited or no serious investigation. All of the schools indicate interest in the most efficient use of staff so long as the method employed does not endanger good teaching and the individual approach so desired by the independent colleges.

The obstacles to improved staff utilization generally cited are the lack of funds with which to experiment, the lack of properly designed facilities, the lack of faculty preparation, and reluctance to attempt the use of certain technological media.

1. It is recommended that the independent colleges co-sponsor with the state system a series of special programs which would introduce faculty to the various means of improving staff utilization, including technological media in the college classroom.

2. It is recommended that the independent colleges establish an exchange of faculty in different years making it possible to offer courses in alternate year sequences and reducing the size of staff that would be necessary each year. In this way, for example, a geography teacher could be at one school one year and another the next, without proliferating staff or program at either school.

3. It is recommended that the independent schools, using the Oregon Independent Colleges Association and in cooperation with nearby state institutions, collaborate in hiring several outstanding guest lecturers-scholars each year so as to ease the need for additional and costly faculty additions while at the same time stimulating the various campuses with noted authorities in various fields.

4. To the extent feasible the foregoing recommendations should be fostered by the Oregon Independent Colleges Association.

Research and Scholarly Activity

The independent schools are predominantly involved in undergraduate education. However, they have demonstrated, in response to questions raised by the committee, that they are interested in having members of the faculty participate in research and scholarly activity. Indeed, they are willing to release individual faculty members from classroom obligations provided: (1) the research does not involve the teacher so completely as to shift his emphasis from his primary responsibility, namely, to teach, (2) the activity is meaningful and related to the teacher's area of concentration and interest, and (3) the researcher tries to involve undergraduates as junior scholars in the pursuit of his project.

Federal programs for research and institutes have been greatly expanded in the past two years, and have now reached more deeply into the field of the humanities. With this new federal interest and source of support in areas of interest for the independent schools it seems they can give serious consideration to enlarging their involvement in research and scholarly activity.

TABLE 60

INDEPENDENT COLLEGES AND UNIVERSITIES IMPROVING STAFF UTILIZATION

Institution	Means Employed Resulting in Reduction of Student-Teacher Ratios											
	Larger Lecture Units		Closed Circuit TV		Open Circuit TV		Prog. Learning & Teaching Machines		Ind. Study & Lab. Activities		Other[1]	
	1960-61	1964-65	1960-61	1964-65	1960-61	1964-65	1960-61	1964-65	1960-61	1964-65	1960-61	1964-65
1	2	3	4	5	6	7	8	9	10	11	12	13
Cascade	-	-	-	-	-	-	-	-	-	-	-	-
George Fox	-	x	-	-	-	-	-	x	x	x	-	-
Lewis & Clark	-	-	-	-	-	-	-	-	-	-	-	x
Linfield	-	-	-	-	-	-	-	-	-	x	-	-
Marylhurst	-	x	-	-	-	-	-	x	-	x	-	-
Mt. Angel	-	x	-	-	-	-	-	-	-	x	-	x
Pacific	-	x	-	-	-	-	-	x	-	-	-	-
Reed	-	-	-	-	-	-	-	-	-	-	-	-
U. of Portland	x	x	-	-	-	-	-	-	x	x	-	-
Warner Pacific	-	x	-	2	-	-	-	x	-	x	-	x
Willamette[3]	-	-	-	-	-	-	-	-	-	-	-	-

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[1] Lewis & Clark, language lab; Mt. Angel, select seniors taking special seminars; Warner Pacific, interinstitutional cooperation (ACCO).

[2] Under discussion.

[3] None used with results indicated.

Source: Independent colleges and universities.

1. It is recommended that each of the independent schools allocate at least a portion of one faculty member's time to the responsibilities of a research coordinator. The coordinator would be responsible for keeping informed about possible sources of support for projects in which each institution would be interested, and encouraging and assisting the faculty to pursue and obtain such support.

2. It is recommended that the research coordinators appointed under recommendation no. 1 meet occasionally to exchange information and to review and discuss the talents and facilities on their respective campuses in order to collaborate on efforts to secure federal and private support.

3. It is recommended that the research coordinators explore the possibilities for interinstitutional research and scholarly activity, combining the skills of social scientists, psychologists and educators, as well as the efforts of those in the natural and physical sciences.

Graduate Education

It should be repeated here that the independent colleges have traditionally concentrated on undergraduate education. In recent years, however, a limited number of them have established graduate programs. Three schools, the University of Portland Pacific University, and Willamette University offer programs at the doctoral level (Table 37, Chapter VI, p. 155).

The independent institutions are aware that added graduate and research opportunities in the state might be an inducement to new industry, but most of them are interested in the fact that it would assist in attracting and retaining faculty.

It is recommended that the independent colleges be invited to work closely with the development of graduate education outlined in this plan.

Facilities

The independent colleges are planning to build new facilities of varying kinds by 1970-71. According to present projections (see Table 81, Chapter XIV pp. 370-371), $27,861,500 will be spent for self-supporting facilities, such as dormitories and dining halls. The independent institutions also plan to expend $23,451,222 on libraries, laboratories, and other instructional facilities.

Faculty

The expansion plans of each of the independent colleges are also reflected in their projection of faculty needs. According to the projections in Table 61, p. 286, the institutions expect to increase the size of faculties from 1964-65 to 1969-70 by 28.6 percent. Of all the problems facing them, obtaining and retaining qualified and competent teachers in these positions is probably the most difficult to accomplish.

Institutional Research

Compiling the information for this study from the independent colleges has been a difficult and time-consuming task, both for the institutions and the statisticians. The institutions generally have no one person responsible for compiling the type of statistical material used in this study.

1. It is recommended that the independent colleges continue to cooperate in the annual compilation of this material with the state four-year institutions and community colleges.

2. It is recommended that this annual study be set up on a uniformly acceptable basis for all schools and that it be prepared for automated data processing.

TABLE 61

INDEPENDENT COLLEGES AND UNIVERSITIES
FULL-TIME EQUIVALENCY OF INSTRUCTIONAL STAFF
BY INSTITUTION, ACTUAL 1964-65 - 1965-66, ESTIMATED 1966-67 - 1974-75

Institution	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	Percent Increase 1964-65 to 1969-70	Percent Increase 1964-65 to 1974-75
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cascade[1]	20	21	21	21	21	21	21	21	21	21	21	-	-
George Fox[2]	31	31	32	32	32	32	32	32	32	32	32	-	-
L. & Clark	87	97	109	111	113	115	117	119	121	123	125	32.2	43.7
Linfield	62	64	70	73	77	82	86	91	95	99	100	32.3	61.3
Marylhurst	48	48	49	50	51	53	54	56	58	61	63	10.4	31.2
Mt. Angel	26	30	33	38	42	47	55	62	70	78	82	80.8	215.4
Pacific	66	70	75	80	83	88	91	95	100	103	106	33.3	60.6
Reed[3]	106	115	120	130	143	145	145	145	145	145	145	36.8	-
U. of Port.	116	116	119	122	123	127	129	131	135	137	140	9.8	21.0
W. Pacific	26	27	28	30	32	34	38	40	46	50	57	30.8	119.2
Willamette	94	97	101	107	115	118	120	122	124	124	124	25.5	31.9
Multnomah	63	69	73	80	88	96	96	96	96	96	96	52.4	52.4
TOTALS	745	785	830	874	920	958	984	1,010	1,043	1,069	1,091	28.6	46.1

[1] No new estimate after 1965-66.
[2] No new estimate after 1966-67.
[3] No new estimate after 1969-70.

The information collected and programmed through data processing could then serve three useful purposes, (1) it could serve as the nucleus of an institutional research program at each school, (2) it could serve as the basis for cooperative examination and activity planning by the independent schools, and (3) with the data from the State System of Higher Education and the community colleges it could serve to facilitate continual re-examination of the master plan for post-high school education in Oregon.

Existing Cooperation Among the Private Schools

There are already a number of ways in which the independent colleges in Oregon are cooperating, some of them involving all of the schools and some involving two or more. Some of the institutions are also cooperating with schools outside the state in special programs.

The two principal associations are:

- Oregon Colleges Foundation - a group of 11 accredited independent colleges cooperating in fund-raising.

- Oregon Independent Colleges Association - a group of 14 independent colleges and universities cooperating in legislative and curricular matters.

Diversity and pluralism (i.e., many ways of doing the job: government, private industry, volunteers, cooperatives, etc.) have long been important in American society. A variety of institutions in higher education, public and independent, contribute to this diversity and pluralism.

Independent colleges and universities, within this master plan, can serve society, the state of Oregon, and the cause of post-high school education generally, in a variety of ways:

1. They can help forge a stronger partnership between public and independent education, avoiding costly duplications in programs and facilities.

2. They can continue to assume responsibility for at least 20 percent of the stream of students headed toward a higher education in Oregon.

3. They can raise a responsible voice of dissent when undue pressure is brought to bear upon public institutions to implement politically or provincially conceived projects which would do violence to long-range goals.

4. They can assist in evaluating and monitoring the post-high school educational establishment. Their faculty and administrative personnel offer competent and articulate expertise to legislators and to the public.

5. So long as the independent institutions of the state are strong they will contribute to the essential pluralism of our society. Henry Heald, then president of the Ford Foundation, underscored this point in his 1965 annual report when he said, "The path to preservation of pluralism - and the originality and energy it fosters - lies not so much in rolling back government as in the maintenance and strengthening of independent, private institutions."[1]

6. Several of the independent colleges and universities have a close relationship to a religious organization. They preserve a religious tradition. Whether or

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[1] The Ford Foundation, Annual Report, October 1, 1964 to September 30, 1965 (New York City: Ford Foundation, 1965), p. 6.

> not related to a church, the independent institutions reflect the freedom of special groups to form an institution of higher learning consistent with their own values.

The independent institutions constitute an educational asset of major importance. Oregonians have invested many millions of dollars in their development.

The main effect of the few recommendations which follow will be to further strengthen the independent colleges and universities so that they can serve an increasing number of Oregon students and seek out methods by which they can work with each other and with the community colleges and the institutions in the State System of Higher Education in the development of coordinated efforts which will offer Oregon a wider range of educational excellence with the least duplication and at the least cost.

The state of Oregon spent an average of $794 in state funds per student to serve 30,283 students (3-term FTE) enrolled in the six multi-purpose institutions of the State System of Higher Education in 1964-65 (Table 11, Chapter IV, pp. 51-53). This figure is for operating costs only and does not include the money spent on new facilities built to service increasing enrollment.

It would seem that any students served at state expense by the accredited independent colleges and universities in the state at a cost below $794 per student per year would be to the state's advantage. While this is not literally true, for many costs are fixed and are not reduced with decreased enrollment, there is a saving if enrollment in a state institution can be shared. This has been the logical basis for the many state scholarship programs throughout the country which support students in independent colleges.

It is therefore recommended that Oregon increase the number of state scholarships available for students enrolling in the state's independent colleges or universities. In 1964-65, of $1,065,537 distributed by the State Scholarship Commission to students enrolled in Oregon institutions, students enrolled in independent colleges and universities were eligible to participate in the allocation of $146,381 (13.7 percent).

Interinstitutional Cooperation

It is in the area of interinstitutional cooperation that we find the greatest promise for educational advancement at the least cost.

It is highly recommended that the institutions themselves - in cooperation with the appropriate agencies of the state, including the legislature and the Educational Coordinating Council - establish a committee on cooperative projects in higher education with an adequate staff to concentrate full-time attention on their achievement.

John J. Wittich, director of the College Center of the Finger Lakes, suggests that there is much to be gained from cooperation:

> The idea: cooperation, at least in specific settings, is more efficient, more defensible, and less costly than competition. The specific use: to unite colleges and universities in the pursuit of common goals - from coordinating the visit of a folk singer to several colleges to the development of a campus in Latin America, and from the bulk purchase of accident insurance to the establishment of a new college.[1]

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[1] John J. Wittich (ed.), Conference on College and University Interinstitutional Cooperation (Corning, New York: College Center of the Finger Lakes, 1962), p. v.

Wittich points out, too, that:

> Enrollments are expected to rise ninety percent between 1960 and 1970, the costs of education are predicted to increase about 170 per cent in the same period, and qualified faculty members are increasingly in short supply as the competition for their services grows.[1]

To maintain the traditional approach of competitive activity in the academic world is indefensible. Fred Hechinger[2] of the New York Times suggests that it is ". . . a fools' paradise of academic hostile co-existence," although he is well aware of the discomfort and unpleasantness of facing the need for change.

Cooperative thinking need not involve such sweeping changes as to endanger totally that which already exists. "Cooperation," quotes Wittich, "is much more likely to proceed from the specific to the general than from the general to the specific."[3]

The independent schools in Oregon have already made substantial inroads on specific areas of cooperation. They have reached, for the most part, what is termed "informal cooperation" by H. W. K. Fitzroy, administrator of University Center in Virginia. He maintains that there are two levels of cooperation, and the second is "The Upper Level: Joint Planning."

> The essential characteristic of the second level of inter-institutional cooperation is that the relationships involve the joint planning of significant educational programs and the sharing of facilities required to achieve excellence in education.[4]

The recommendation, then, is that the independent and public institutions seriously consider the possibilities for cooperation on this upper or second level.

The following listing of cooperative possibilities[5] is given in the hope and expectation that it will inspire the colleges and universities in Oregon (both public and independent) to action.

1. Continuing education.
2. Sharing of faculty.
3. Advanced planning.
4. Research, both individual and contract, covering institutional business and governmental.
5. Insurance.
6. Purchasing, storage, furniture and equipment repairs.
7. Programed learning and all related curricular developments.
8. Closed-circuit television.
9. Admissions (including recruiting).
10. Joint programs, such as PhD programs.
11. Computing centers.
12. Arts programs.
13. Film center.
14. Visiting scholars.
15. Joint classes.
16. Placement services.
17. Periodical publication.
18. Joint calendar publication.
19. Sharing facilities.

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[1] *Ibid.*, p. 5.

[2] *Ibid.*, pp. 7-17.

[3] *Ibid.*, p. 5.

[4] *Ibid.*, p. 20.

[5] *Ibid.*, pp. 62-63.

20. Sharing of equipment.
21. Joint hiring of supervisory staff.
22. Joint faculty and departmental meetings.
23. College and university presses.
24. Library cooperation: cross cataloging of library holdings; library privileges for students and faculty at other colleges; the development and expansion of holdings in specialty fields by one college rather than several.
25. Cooperative formula for awarding student scholarships.
26. Internships in government and industry.
27. Student research.
28. Union list of periodicals.
29. Central library depository.
30. Information to guidance counselors concerning admissions requirements.
31. Program to explain teaching profession to high school students to encourage them to join the profession.
32. Joint evaluation of such activities as good services and business operations.

The independent schools should continue to work with the Educational Coordinating Council, regularly up-dating the statistical material prepared for this report so that there is ever greater accuracy and consistency.

Both public and independent institutions should keep each other advised of plans for new programs.

Through a successfully developed master plan for post-high school education in Oregon, both independent and public schools will be developing mutual support and individual strength. They will be looking to the general needs of their constituencies rather than competing to their mutual detriment; they will be developing programs of strength rather than diluting programs through proliferation; they will be developing educational opportunities for the greatest numbers; and through a unified approach they will be developing programs of excellence where they are best able to be developed, while encouraging and guarding the diverse purposes for which the several institutions rightly exist.

It is recommended that the independent institutions be invited to join in a review of enrollment projections in cooperation with the State System of Higher Education, with the objective of continuing to serve a significant portion of the projected post-high school enrollment in the state. In the public interest it is felt that the percentage should be maintained at or near 20 percent of the total state enrollment.

In total the four-year independent colleges and universities enrolled 5,241 Oregon students fall term 1964-65, almost the equivalent of the fall term 1964 enrollments at Southern Oregon College, Oregon College of Education, and Eastern Oregon College combined.[1] The savings to the state in not having to provide for these students is apparent.

It is recommended that the independent colleges and universities be represented on all coordinating bodies authorized to formulate general policy for higher education in the aggregate in Oregon.

It is recommended that the independent institutions be invited to cooperate with the state system in the development and administration of a library for rarely used research materials and professional journals.

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[1] Office of Institutional Research. Fall Term 1964 enrollments (head count) for SOC: 2,474, OCE: 1,687, EOC: 1,205; Total: 5,366. Independent college figures taken from Table 56, p.279, col. 7.

CHAPTER XI

Continuing Education

> Between June 1961 and June 1962 approximately twenty-five million American adults, or better than one person in five, engaged in some sort of systematic effort to acquire new knowledge, information, or skills. . . . Only four percent with no schooling sought adult education compared with 47 percent among those who had had more than sixteen years. . . . The typical adult student today is young, urban, and fairly well educated, and this is exactly the type of person who will be around in greatly increased numbers in the very near future.[1]

The foregoing excerpt from the recent publication resulting from a Carnegie supported survey and study conducted by the National Opinion Research Center, indicates the clientele for continuing education. The report gives added substance to the philosophy that to have education is to want education, that education gives appetite for more education in a circular fashion. The impact of this phenomenon upon the demand in the future for continuing education may be surmised from the estimates as to the increasing educational level of our population.

While the population as a whole is estimated to increase by 35 percent in the next 20 years, the growth of the number of adults under 35 will approximate 70 percent. Within this same period it is estimated that the population will contain 64 percent more adults who have been to college, 59 percent more who have attended high school, and 15 percent fewer with only a grade school education.[2]

In Oregon the potential audience for continuing education is increasing at a much faster rate than the population as a whole. The human and other resources assigned to continuing education in the past will not provide adequately for the needs of the future.

Continuing education today, and increasingly so tomorrow, will help provide the adult with the kind of knowledge, wisdom, and skill which his world requires of him. It will develop or increase in the adult an understanding of the basic problems of the society and will help in the acquisition of the ability to participate in solution of these problems. Continuing education will help each adult in the understanding and knowledge and perception that leads toward effective individual fulfillment.

The complex world of today has developed to the point where men may improve their society only with the capacity given them by educated people. Higher education faces a situation in which it is being asked to supply the competence to unravel and answer every major unsolved social problem, as well as continuing its traditional role.

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[1] John W. C. Johnstone and Ramon J. Rivera, Volunteers for Learning (Chicago: Adline Publishing Co., 1965), as quoted in Carnegie Corporation of New York, Quarterly, Vol. XIV, No. 1 (January, 1966), p. 5.

[2] Ibid.

With the well-known knowledge explosion placing new and unprecedented instructional demands upon the institutions of higher education, some way must be found to increase their capacity to perform the great public tasks which are their responsibility and a major part of their reason for being.

Many people will be taught those new and necessary skills while attending colleges and universities, but many more must learn them after their formal education period of life. Continuing education will be the chief mechanism for enabling the institution to perform these tasks.

Existing Patterns of Continuing Education in Oregon

Continuing education is extremely flexible, as to form and method. It has the capacity to adapt to the requirements of formal instruction offered by the institutions of higher education, while at the same time serving as a testing ground for innovations and providing an outlet for creative educational activities beyond the normal limitations of formal instruction offered by the institutions.

Oregon has a number of educational agencies, including some not affiliated with the educational systems, for providing continuing education opportunities.

- Continuing education in colleges and universities.
    - Colleges and universities of the Oregon State System of Higher Education.
    - Division of Continuing Education of the Oregon State System of Higher Education.
    - Cooperative Extension Service (Oregon State University).
    - Independent colleges and universities.
- Continuing education in community colleges.
- Continuing education in proprietary schools that emphasize occupational training.
- Continuing education in public school adult education programs.
- Business and industry training and continuing education activities.

Division of Continuing Education

The Division of Continuing Education, as an administrative agency of the chancellor's office, is headed by a vice chancellor for continuing education, assisted by staff officers for research and development, business affairs, and divisional relations.

The Division of Continuing Education has the function of extending resources of the institutions of the State System of Higher Education. The carrying out of this function involves the administrative and operational responsibilities for providing credit and noncredit classes, correspondence and televised instruction, workshops, institutes, and consultant services to business and professional groups. The division operates a film library and the state-owned television and radio networks and is responsible for their availability to schools as well as to adults.

Credit courses offered through the DCE are drawn from the catalogs of state system institutions and generally are taught by state system faculty members. The institutions and the division are responsible for maintaining campus standards of instructional quality. While the division does not grant degrees, a student may work out programs of courses, in consultation with the institution from which he wishes to receive a degree, and have some or all of his extension work applied to his degree program.

The division includes three administrative sections. Centers for Continuing Education encompass the instructional programs and educational resources available to individuals at a college or university in addition to the degree-oriented curricula of that institution. Such centers are located at Eugene, Corvallis, Portland, etc.

University Extension provides educational services and facilities for community development and economic opportunities through university, governmental, and directed study programs. Educational Media operates the educational broadcast networks and the film library.

Cooperative Extension Service

The Cooperative Extension Service, with financial support from county, state, and federal levels, as a part of the land-grant system, has historically provided for extension activities operated in connection with Oregon State University. Its general purpose is to provide educational information and assistance in agriculture and home economics to the population of the state. The extension staff consists of central administration and subject-matter specialists at Oregon State University and county extension staffs located in every county of the state. Increasing urbanization of the state's population is causing Cooperative Extension to broaden its efforts to meet these new demands, while continuing its services to rural farm and home. A major part, if not all of the service, is a form or part of continuing education today. The extension programs in many instances have their genesis in research activities. And whether these programs be for agricultural production or marketing, home economics, youth leadership, public affairs, or community development - they involve the dissemination of knowledge.

Extension clientele are now from all ages and educational levels and from nearly every classifiable group found in an average community. They reach both rural and urban areas. The programs now offered extend across the breadth of disciplines and competencies of the land-grant university (Oregon State University).

Basically, extension-type continuing education is problem-oriented for the individual, group, institution, or community. Hence, there is often greater motivation for learning and application of the knowledge than exists in the usual formal classroom situation for youth.

Community College Extension

The state's public two-year community colleges have an important role in the provision of courses and programs designed to assist adults to deal effectively with the ideas, concepts, and areas of knowledge which will enable them to cope with their social and physical environment.

Independent College and University Extension

Many of the independent colleges provide special opportunities for adults to participate in course offerings and lectures. Financing has been an obstacle to the development of large programs in continuing education. The stimulus of federal support for projects aimed at solving community problems can be expected to raise the level of activity in the future.

Other Agencies

There are many quasi-educational organizations such as the YMCA which provide the auspices for a wide range of adult education, while the changing demands of new jobs will guarantee the expansion of already sizable in-plant training activities of business and industry and also require the services of the proprietary schools.

If the rapidly increasing number of adults wanting continuing education seek such basic services from educational institutions and organizations, it is evident that not enough professionals are available for the job.

Recommendations

In view of the foregoing forces and needs, it is recommended:

1. That public and independent institutions of higher learning in the state stimulate the recruitment and training of people especially competent to work in the field of continuing education.

   Continuing education in Oregon is in need of developing qualified people in larger numbers to carry on the kind of processes that help individuals to impose a structure upon the ambiguities of their life condition. It is the heart of the matter that institutions of higher learning must become more sensitive to the importance of continuing education, more perceptive as to their role in it, and more accepting of this obligation. Those engaged in activities of continuing education have a major role to play in securing this increased institutional involvement.

2. That teachers at all levels be encouraged and assisted in becoming more aware of the demands and significance of continuing education.

   No matter how many specialized personnel are trained for continuing education, the magnitude of the task will require the participation generally by all levels of education. Special seminars for engineers, lawyers, and the like are continuing education activities of the university or college even if not developed or administered by traditional continuing education agencies. Bonds of cooperation need to be formed or strengthened between those who are formally engaged in continuing education and those whose informal involvement is neither fully recognized nor adequately understood at this time.

   Recommendations for action to encourage increased interest in continuing education on the part of teachers and potential recruits to the field include:

   a. Preparation of a manual to be made available to teachers, describing the agencies in Oregon.

   b. An information sheet distributed regularly to these same people plus selected groups of alumni.

   c. An annual conference on continuing education to which selected teachers and alumni would be invited.

   d. Presidential, invitational campus conferences on continuing education for the faculty.

   e. Orientation sessions for instructors who have accepted teaching responsibilities in continuing education programs.

   f. Provision of intern opportunities in continuing education for those who are preparing for administrative responsibilities in higher education.

3. That those who have administrative responsibilities in Oregon education, in order to find ways of sharing the task and supplementing each other's efforts in continuing education, establish a Council on Continuing Education.

   The magnitude of the task should encourage and will require the development of fresh, new relationships between public and independent educational institutions; between education and government; and between education and the sectors of the economy. A council of representatives of the several agencies and interests in continuing education should be established for the purpose of arriving at decisions and understandings, interpreting policy and exploring broad areas of mutual concern with the hope that, in appropriate instances, responsibility for program development and administration could be shared. Such a council should include representation from the State System of Higher Education, appropriate leadership nominated by the proprietary and independent institutions of the state, representatives from involved groups such as industry and labor, and a representative or representatives of the community colleges and adult and vocational education interests of the State Department of Education. There should also be citizen representation from the Colleges for Oregon's Future organization.

4. That thoughtfully conceived organizations or inter-organization mechanisms be designed to sort out the growing number of federal programs and fit them into their appropriate place in Oregon continuing education.

   The prescription of a "state plan" by the various federal educational programs is based on their desire to achieve statewide distribution of effective programing These advisory committees, somewhat hastily formed under the prodding of federal program thrusts, ought not be mistaken for the best possible method of coordinating cooperative approaches to the long-range problems of serving the educational needs of Oregonians. The Council on Continuing Education, referred to above, would be a logical instrument for studying the complex federal-state relationships and recommending steps for the improvement of joint program approaches.

5. That provision for facilities for continuing education be considered by schools and colleges as a basic part of plant planning and development.

   Too often continuing education facilities are those constructed for other purposes without the needs of the adult in mind. Although some newer public schools and college buildings now contain provisions for adult meetings and classes, many of the older buildings now in use could easily be adjusted through slight altering and provision of adult size furniture to meet continuing education needs. In this connection the school districts of the state should be complimented on the progress they are now making in these directions.

6. That business and industry, state and federal government, and other public agencies should be strongly encouraged to contribute to the support of continuing education in the interest of increasing employability and productivity of Oregon's people.

   If there were built into the work week a certain number of hours of paid time in organized continuing education or in job-related and community educational programs, more adequate services could be developed and provided. Industrial participation in the Council on Continuing Education could lead toward such cooperative arrangements.

7. That counseling and guidance for adults be made available through colleges, universities, and continuing education organizations in a cooperative approach.

   Counseling and guidance for adults has been available through the Division of Continuing Education since the establishment, in 1957, of a counseling center for adults. During 1963-64 the division expanded the advising services for educational planning for adults to an all-Oregon program. The program includes special orientation sessions for groups of individuals such as women's groups.

   Community colleges and other post-high school institutions also are expanding, or planning to expand, their counseling capabilities.

   Because most people in need of continuing education do not know of the availability of counseling services, there will be need for expanded public information programs about this opportunity.

Continuing education opportunities can be available to adults through a wide selection of institutions and agencies; it is important that the process of guiding and counseling them be as inclusive as possible. The Council on Continuing Education should address itself to discovering and encouraging methods of effective articulation between counseling services of agencies involved.

8. That the Cooperative Extension Service and the Division of Continuing Education be integrated into one unit of the State System of Higher Education.

A committee of staff members of the Cooperative Extension Service and the Division of Continuing Education have agreed that the effectiveness of the state system's extension programs would be improved through integration of these two agencies. The most useful relationships would be obtained by joining the Cooperative Extension staff, strategically located in every area of the state, with the resources of all seven state institutions, through the continuation centers located on or near the campuses. The committee's report asserts that there is evidence to indicate that public benefit and use comparable to agriculture and home economics is possible from many other schools and departments throughout the State System of Higher Education.

It also states that integration of the extension services would seem especially valuable in planning programs appropriate to problems in public affairs, the urbanization process, and community development. Current examples of public concerns in this field are taxation, land use planning and zoning, civic beautification, and air pollution control. Companion problems in the social science field include juvenile delinquency, family disruption, alienation, and poverty.

Following the tenor of this report, pilot developmental field programs at the county level are now being established to expand educational opportunity through the combined efforts of county commissioners, county extension staffs, and Division of Continuing Education personnel. These joint ventures are intended to be basic initial steps toward integration of the two public extension services.

This committee /post-high school study/ concurs that integration of the two units into a single arm of the state system would provide a positive force for improvement of continuing education opportunity, and commends the agencies for their grass-roots-level approach toward a unified and effective extension service.

9. That the statewide continuing education concerns of the extension services of the State System of Higher Education and the local service obligations of the community colleges be coordinated through cooperative arrangements for the use of personnel and resources, thus working cooperatively with the latter.

Having noted its pleasure at the progress toward integration of the extension services of the State System of Higher Education, the committee also believes that there are further possibilities of increasing effectiveness and efficiencies through cooperation and coordination between DCE and the community colleges. The Division of Continuing Education, which now offers its administrative services to independent colleges in connection with the federal community services program, could also so place its field personnel as to help service the areas in which community colleges have special obligations.

10. That the proposed Council on Continuing Education assist organizations and institutions involved in continuing education to increase research in the field.

There is much useful research under way in the various economic and social questions that the changing times pose for Oregonians. There is a need for these findings to be studied in terms of adult requirements for continuing education.

The second research dimension is in the evaluation of continuing education services. As mentioned earlier, little reliable information is available about the needs of continuing education students in Oregon. Until a comprehensive description of the prospective continuing education publics is available, the state can expect only scattered and inefficient efforts to serve the educational needs of the adult population.

The wide variation in the effectiveness with which Oregon's needs for continuing education are presently being met should be studied with a view to improving service to areas being poorly served.

Some communities are being better served than others; some occupation fields are receiving specialized services while others are not. Citizens at some income levels are much better served than others. It is believed that efficiency in the use of the somewhat limited resources at hand is good but that the effort presently being expended is far smaller than the apparent need, as viewed across either geographic or demographic lines. The Division of Continuing Education should be asked by the continuing education council to develop a study of continuing education needs in Oregon.

There is also need for considerable inquiry into the best combination of methods for continuing education. Educational television, radio, programed instruction and electronic response systems, motion pictures, filmstrips, slides, graphic materials and computers are all relatively new and promising media yet to be thoroughly tested in combination with more traditional techniques of continuing education.

It is recommended that study be devoted to developing new methods and combinations of methods of serving the continuing education needs of adults. For example, are there possibilities of combining correspondence study with radio and television lectures? Can the new communication possibilities of the telephone, with its potential for sending visual materials, be used to serve outlying regions of the state?

While it appears evident that certain areas of continuing education are of greater significance to society than are others which might seem important to the individual concerned, it is not easy to predict which will be vital and which will be of lesser moment in the future. Preparation for effective use of increased leisure time may become as important to society as to the individual, as work-centered living undergoes the influence of automation. It is possible that with the best of foresight we shall not foresee all of tomorrow's needs.

There is a need to earn lead time by increasing ability to conceptualize future requirements lest the error of retraining for obsolescence become habitual. These skills are most likely to be available on the campus.

It is hoped that the state share of money for continuing education, matched by the individuals benefited, can increase enough to permit greater imagination, creativity, and flexibility of enterprise by the practitioners of continuing education. Reorientation of the objectives and procedures of continuing education toward tomorrow's pattern of service to the community, as well as to the individual, merits broadened interest and support from local, state, and federal levels.

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CHAPTER XII

Faculty Considerations

> . . . The staff is the university, - or it should so be if the university is to deserve the place assigned it in the scheme of civilization. Therefore the central and gravest question touching current academic policy is the question of its bearing on the personnel and the work which there is for them to do. In the apprehension of many critics, the whole question of university control is comprised in the dealings of the executive with the staff.[1]

> Within the university itself, major responsibility for charting a course into the future will reside in three groups or centers of power. These are the governing board, the president and his principal administrative associates, and the university faculty.
>
> . . . .
>
> The third center of power to determine the future of a state university, perhaps the most decisive of all in the long run, lies in the faculty itself. Boards and presidents come and go but faculty lives on, and in its ever changing but never dying corporate being may best be found the true embodiment of a university. Those who come and go may leave a faculty stronger or weaker in quality and purpose, but they have neither the time nor the strength to transform it completely. Firmly grasped and fully asserted its professional right and duty to point the way in educational affairs can make it the most potent and enduring force of all.[2]

What is said by Veblen and Heimberger as to the importance of the faculty to the future of the university may be said, also, with respect to post-high school agencies or institutions, generally. As is the quality of the faculty, so is the potential of the school or institution.

To those familiar with the projected rapid increase in college-age population in Oregon, the increasing federal encouragement and support for post-high school educational programs, the increasingly general recognition of the importance of education, and the expanding student financial aid resources, it is obvious that Oregon, like other states, is faced with a major increase in post-high school enrollments in the years just ahead. Faculties in all types of post-high school educational agencies and institutions must necessarily be expanded, and rapidly, during the next decade.

We must, during this period of rapid faculty expansion: (1) seek, as we make additions to faculties, to maintain or to improve the level of the quality of the faculties, and (2) strive for the most efficient use of faculty members in this period when supply of qualified faculty is likely to be least adequate. Maintaining or improving faculty quality must be considered a preeminent concern of those interested in the quality of post-high school education in Oregon.

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[1] Thorstein Veblen, op. cit., p. 108.

[2] Frederic Heimberger, "The State Universities," Daedalus, Journal of the American Academy of Arts and Sciences, (Fall, 1964), pp. 1104, 1107.

In this chapter of the report, we shall discuss the following matters having to do with our concern for maintaining the quality of instruction at a high level in the decade ahead.

1. Projected need for faculty additions in colleges and universities of Oregon in the next decade.

2. Supply of qualified faculty personnel from which to recruit needed faculty additions.

3. The need for and the means of remaining competitive in the academic market place as Oregon recruits new faculty members.

4. The efficient use of faculty.

Projected Demands for Faculty in Oregon's Colleges and Universities

It is estimated that the faculties of Oregon's colleges and universities will increase from the 3,117 employed in 1965-66 to 6,181 in 1974-75, an increase of 98 percent. We shall need to employ during this period 3,064 new faculty members, in addition to those needed as replacements resulting from normal attrition.[1]

These projected faculty increases are shown in Table 62, p. 301, categorized in terms of state system institutions, independent colleges and universities, and community colleges.

It will be observed from Table 62 that the community colleges expect the largest percentage increase in faculty members, followed in order by the state system institutions and the independent colleges and universities. The last-named institutions, being privately managed, are in a position to exercise greater control over their growth rate than is true of either the state system institutions or the community colleges.

Maintaining Quality of the Faculty in the Face of Increasing Demand

Four-Year Colleges and Universities

Though it has some serious limitations as a measure of faculty quality, a typical means of measuring the adequacy of the preparation of new faculty additions, in the aggregate, in a four-year college or university, is the extent to which the new additions permit the institution to maintain, at some satisfactory level, the percentage of teaching faculty with the doctorate.

We recognize that the foregoing measure has its limitations.

1. The PhD program does focus upon research, whereas there are many successful college teachers who engage in no research activities.

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[1] State system estimates of faculty additions are derived from figures prepared by the State System Office of Institutional Research. The independent college and university figures were developed by the individual independent colleges and universities. Community college figures were developed by the individual community colleges in cooperation with the State Department of Education.

TABLE 62

INSTRUCTIONAL STAFF (FULL-TIME EQUIVALENCIES)
OREGON STATE SYSTEM INSTITUTIONS, INDEPENDENT COLLEGES, COMMUNITY COLLEGES
Actual and Projected, 1964-65 through 1974-75

Institutions 1	1964-65 2	1965-66 3	1966-67 4	1967-68 5	1968-69 6	1969-70 7	1970-71 8	1971-72 9	1972-73 10	1973-74 11	1974-75 12
State System[1]	1,777	1,897	2,218	2,441	2,613	2,705	2,831	2,964	3,070	3,163	3,239
Independent[2] (12 institutions)	745	785	830	874	920	958	984	1,010	1,043	1,069	1,091
Community Colleges[3]											
Lower Division	(78)	(176)	(231)	(333)	(418)	(488)	(561)	(628)	(696)	(756)	(805)
All Other	(236)	(259)	(325)	(461)	(557)	(643)	(725)	(815)	(905)	(988)	(1,046)
Total	314	435	556	794	975	1,131	1,286	1,443	1,601	1,744	1,851
Total All Institutions	2,836	3,117	3,604	4,109	4,508	4,794	5,101	5,417	5,714	5,976	6,181

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[1] State system figures are for the six multi-purpose institutions. Figures for 1964-65 and 1965-66 are actual; figures for 1966-67, 1967-68, and 1968-69 are taken from State Board of Higher Education data supporting the budget request for the 1967-1969 biennium; figures for 1969-70 through 1974-75 have been projected on basis of a 17.0:1 student-teacher ratio.

[2] Independent college projections have been developed separately by the independent institutions. Figures for 1964-65 and 1965-66 are actual. Figures do not include estimates of staff additions for Cascade and George Fox 1966-1975 and Reed, 1969-1975. No figures are provided for Concordia, Northwest Christian College, and Judson Baptist.

[3] Community college figures are actual for 1964-65, estimated for 1965-66. Projected figures include staff for Mt. Hood beginning with 1966-67; Clackamas, Linn-Benton, Mid-Columbia, and Washington beginning with 1967-68; and South Central beginning with 1968-69.

Source: Office of Institutional Research, Oregon State System of Higher Education; independent colleges and universities; and Division of Community Colleges, State Department of Education.

2. The PhD degree says nothing of one's teaching ability.

3. In some subject matter areas (e.g., architecture, journalism) this measure of institutional faculty quality is quite unrealistic, since the terminal degrees in these fields are something less than the doctorate.

As a committee, we acknowledge with Barzun that one builds upon false premises if he assumes "that all teachers must add to the existing stock of knowledge by research, and that all self-respecting institutions fulfill their role only by employing productive scholars."[1]

Yet the MA degree lacks prestige, and the able "college teacher" often is not content with a professional title of less dignity and standing than his university colleague's PhD title. Efforts to develop a degree to meet this special need of the non-research-oriented college teachers have been largely fruitless, though failure has not deterred continuing efforts in this direction. One of the most recent of such degree proposals has just been made (April 1966) by a committee of nine professors of the University of California at Berkeley. Stating that: "The time has come to question the whole system which makes the PhD the only acceptable form of certification for college teaching," the Berkeley committee recommends the creation of a new doctor of arts degree carrying all of the requirements of the PhD except the long research dissertation.

It is our view, however, that if one assumes that the PhD or its equivalent, will, in the universities and, to a large extent, in the four-year colleges, too, represent the sine qua non for the employment of senior staff members, then it may not be unrealistic to examine faculty characteristics in terms of the measure typically in use, namely, the percentage of PhD degree holders on the staff.

That the proportion of faculty having PhD degree is commonly used as a measure of the progress in faculty recruitment may be seen from the Ford Foundation Report of 1962, which, while discussing the crisis in mid-century in the staffing of our colleges and universities, said:

> An alternative would be to hire more teachers with less than the Ph.D. But the prospect of a gradually mounting percentage of the college-teaching corps without the doctorate threatened the quality of American higher education. It was clear that steps were required to recruit more of the nation's able young men and women for academic careers, to speed progress toward the doctorate, and to improve master's programs as a means of providing better prepared beginning teachers.[2]

Trend in Highest Academic Degrees Held - State System Institutions. The profile of the faculties in the six multi-purpose institutions of the state system showing the highest degrees held by faculty from 1960-61 through 1965-66 is shown in Table 63, p. 303.

The six multi-purpose institutions of the state system have, as a group, shown an increase in the proportion of faculty holding the doctorate from 1960-61 (49 percent) to 1965-66 (52 percent).

During this same period (1960-61 to 1965-66), there was a corresponding decrease in the proportion of the faculty holding master's degrees (a decline from 41 percent to 39 percent). The proportion of the faculty holding less than a master's degree has remained relatively constant, at roughly 10 percent.

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[1] Jacques Barzun, Teacher in America (Garden City, N. Y.: Doubleday & Company, Inc., 1954), p. 178.

[2] The Ford Foundation, The Pay of Professors (New York: The Ford Foundation, 1962), p. 3.

TABLE 63

HIGHEST ACADEMIC DEGREES HELD BY FULL-TIME TEACHING FACULTY AT SIX STATE SYSTEM MULTI-PURPOSE INSTITUTIONS
1960-61 to 1965-66

Highest Degree Held	1960-61		1961-62		1962-63		1963-64		1964-65		1965-66	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
1	2	3	4	5	6	7	8	9	10	11	12	13
Doctor's	514	49	543	47	592	48	687	49	672	51	755	52
Master's	435	41	495	43	505	41	570	41	521	39	568	39
Less than Master's	101	10	116	10	127	11	138	10	137	10	134	9
Total	1,050	100	1,154	100	1,224	100	1,395	100	1,330	100	1,457	100

Source: Office of Institutional Research, Oregon State System of Higher Education.

Within the state system there is, of course, a wide range among the institutions in the proportion of full-time faculty holding the doctorate. In one institution, 34 percent of the staff hold the doctorate, while in another, 66 percent do (1965-66).

Trend in Highest Academic Degrees Held - Independent Colleges and Universities. The nine independent colleges and universities of Oregon included in this aspect of the study range in size from one with a faculty of 14 staff members to one having 112 staff members in 1964-65.[1]

There is an even wider range among the independent colleges than among the state system institutions in the proportion of the staff holding the doctorate. In the independent institutions it ranged from 13.6 percent in one of the smaller institutions (total of 22 staff members) to 50 percent in two institutions having full-time faculties in excess of 80 and 110 respectively.

As to the trends in the independent colleges and universities, these may be seen in Table 64, p. 304, which indicates the highest degrees held by faculty in these colleges in 1960-61 and 1964-65.

In the period 1960-61 to 1964-65, two of the independent colleges (institutions F and G) made slight gains in the proportion of their staffs holding the doctorate, three have remained essentially static, as they have added staff members during this period (institutions A, B, and D), and three (institutions E, H, and I) have suffered a decline in the proportion of faculty holding the doctorate.

The proportion of the faculty at institution H holding the doctorate has declined from 63.4 percent in 1960-61 to 50 percent in 1964-65. Even so, institution H is still equalled by only one other independent college or university in Oregon in the proportion of its staff holding the doctorate (institution G).

Highest Academic Degrees Held - Community Colleges. Difficult as may appear the problems of faculty recruitment to the well established colleges and universities, problems of recruitment are multiplied for the beginning institution. And the community colleges in Oregon are beginning institutions. Only one has been in operation for as long as ten years; the remaining eight community colleges in operation in 1965-66 have been in operation five or fewer years.

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[1] George Fox College, Lewis and Clark College, Linfield College, Mount Angel College, Marylhurst College, Reed College, University of Portland, Warner Pacific College, Willamette University.

To the problems of recruitment in a beginning four-year institution are added, in the case of the community colleges, the problems posed by the very wide range of offerings these latter institutions, as open-door, opportunity institutions, are expected to offer. These range from the occupationally oriented vocational and technical offerings to the college transfer programs designed for the academically oriented student who will wish to go on to a four-year institution for his baccalaureate degree.

In Oregon, the standards of appointment for instructors in the community colleges are established, in the case of the instructors of the vocational and technical programs, by the community colleges themselves under the general oversight of the State Board of Education, and, in the case of the instructors of the college transfer courses, by the Oregon State Board of Higher Education, which has this responsibility, by law, until the community college is accredited by the Northwest Association of Secondary and Higher Schools.

TABLE 64

HIGHEST ACADEMIC DEGREES HELD BY FULL-TIME TEACHING FACULTY IN SELECTED INDEPENDENT COLLEGES AND UNIVERSITIES IN OREGON 1960-61 and 1964-65

Institution	Proportion Faculty with Doctorate 1960-61	1964-65	Proportion Faculty with Master's 1960-61	1964-65	Proportion Faculty Less than Master's 1960-61	1964-65
1	2	3	4	5	6	7
Institutions with Fewer than 40 Staff						
A	13.3	13.6	66.7	63.6	20.0	22.7
B	15.6	15.4	53.1	59.0	31.3	25.6
C	-	31.8	-	59.1	-	9.1
Institutions with 40-75 Staff Members						
D	20.5	20.9	66.7	65.1	12.8	14.0
E	48.3	46.7	43.1	43.3	8.6	10.0
Institutions with More than 75 Staff						
F	46.4	49.4	33.3	31.2	20.3	19.4
G	47.0	50.0	36.8	40.5	16.2	9.5
H	63.4	50.0	31.7	37.5	4.9	12.5
I	37.0	35.2	46.2	54.9	16.8	9.8

Source: Independent colleges and universities.

Ideally, the instructor in the vocational and technical programs in the community colleges should have acceptable academic credentials as well as an unimpeachable work experience record in the field in which he would instruct. Unfortunately, such persons are difficult to find. In consequence, the administrator is often faced with a choice of employing either: (1) a faculty member with good academic credentials, expressed in terms of academic degrees earned, but with less work experience than would be desirable, or (2) a faculty member with minimal or inadequate academic credentials, but with excellent work experience in the field in which he is to instruct.

Faced with this choice, the administrator tends to make his choice in terms of: (1) the relative importance he ascribes to the academic preparation and to work experience in instructor preparation, and (2) the relative difficulty of remedying the two kinds of deficiencies represented by the individuals cited above.

In the vocational fields and in the technical fields lying nearest the vocational education end of the technical education spectrum, the administrator's tendency, when faced with the choice above, is to select the instructor with the appropriate work experience, hoping, then, to stimulate him to remedy his academic deficiencies after he is employed. This decision stems from the belief that: (1) in these kinds of programs, if a choice must be made as between academic credentials and appropriate work experience, work experience is the more important, and (2) it is less difficult for a person with appropriate work experience to secure the necessary academic background and credentials than it is for an individual with academic credentials to enter industry and spend sufficient time there to acquire real skill as a practitioner in the field in which he would instruct.

In the case of the college transfer programs in the community colleges, the instructors must, as a general rule, have the appropriate academic credentials. The state system committee on community colleges, appointed by the State Board of Higher Education to work with the community colleges in the development of their college transfer programs, has established, as a general policy, that instructors of these courses must, except where exception is justified, have a master's degree in the major field in which the instructor is teaching. Exceptions to this general policy are permitted where, in given instances, it can be demonstrated that the individual: (1) has 30 credit hours of graduate work creditable toward a master's degree in the field, or in the case of a second teaching field, 24 credit hours of graduate work in the field, or (2) has special talents or abilities that reflect his capacity to instruct in the field, notwithstanding the fact that he does not have the required minimum graduate work in his field of instruction. Exceptions under the second category are most usually found in the fields of music, art, or foreign languages.

It is inappropriate to endeavor to make any meaningful comparisons between the community colleges and the public and independent four-year colleges and universities in the proportion of their respective total faculties holding the doctorate, or in terms of the highest academic degree held by faculty members.

In presenting here data relating to the level of academic preparation of staff in the community colleges of Oregon, we would emphasize that the community college data are not intended for use in making comparisons with data presented earlier in this study, which dealt with the level of faculty academic preparation in the four-year colleges and universities. There are numerous reasons why such comparisons have little meaning.

1. The adequacy of teacher qualifications must be measured in terms of educational goals and purposes of the institution. And, as earlier noted, the community colleges have a unique function as open-door, opportunity schools.

2. Data for the four-year institutions include full-time staff members engaged in teaching and research at the graduate and upper-division levels, as well as those teaching at the lower-division level.

3. In some four-year institutions, substantial lower-division instruction is carried on by part-time instructors, the level of whose academic preparation is not considered in the statistics presented in this study for the four-year institutions.

4. The community college statistics include full-time instructors in the vocational and technical programs - programs which are not typically offered in the four-year institutions.

5. Finally, as we earlier noted, effective instruction in vocational and some technical fields does not require that the instructor have had extended postgraduate education.

With the foregoing cautions in mind, then, we present the level of academic preparation of the full-time instructors in the community colleges of Oregon.

An analysis of the highest academic degrees held by the full-time teaching faculty of the eight community colleges in operation in 1964-65, reveals that, of the total of 228 full-time instructors, 5.7 percent held the doctorate, 56.6 percent held master's degrees, and 37.7 percent had less than a master's degree.

The percentage of full-time instructors in Oregon community colleges holding the doctorate in 1964-65 (5.7 percent), is very near the percentage of the new full-time teachers employed in 1963-64 and 1964-65 in some 369 public junior colleges in the United States (6.6 percent).[1]

Maintaining the Supply of Qualified Teachers

Writing in 1963, Harold Orlans of the Brookings Institution stated that: "No subject is more debated in the educational fraternity than the extent of the present and pending faculty 'shortage' and its implications for academic standards."[2] In 1966, the debate continues unabated.

To some, the evidence is clear that the demand for qualified college teachers presently exceeds the supply, and conditions can only get worse in the decade ahead. They speak of the educational institutions as being "unable to compete in the open market for the new talent being produced," with the result that "universities and colleges find themselves more embarrassed day by day."[3]

Cartter quotes a college president as reminding his confreres, in 1964, of the "frightening figures for the prospective shortage of teachers. . . . I repeat with all the urgency I can command that our traditional and conventional doctoral programs will simply not produce the number of teachers with doctor's degrees our educational system demands."[4] Cartter also observed that when he himself had evaluated the situation in 1963, following a review of the findings of researchers in the field of teacher supply and demand, he had "expressed the opinion that 'even if the optimistic projection of doctorates should prove correct, there will be a serious shortage of qualified college teachers until 1980.'"[5]

To others, the evidence of present and potential teacher shortage in higher education is not at all clear. They charge that the data upon which the foregoing pessimistic reports are based are, in some measure, invalid because of methodological shortcomings in the gathering of the data; that unwarranted assumptions are made upon these inadequate data, leading to questionable conclusions. Cartter, writing in 1965, presents as evidence of the misreading of the data, the fact that the proportion of the full-time teachers holding the doctorate showed a significant increase from 1953-54 to 1962-63. Cartter says that "there is clear evidence of a considerable increase in the percentage of full-time teachers with the doctorate, as shown in Table I /Table 65/."[1]

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[1] National Education Association, Research Div., Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963-64 and 1964-65, Higher Education Series, Research Report 1965-R4 (Washington, D. C.: NEA, 1965), p. 38.

[2] Harold Orlans, The Effects of Federal Programs on Higher Education, A Study of 36 Universities and Colleges, (Washington, D. C.: The Brookings Institution, 1962), p. 13.

[3] Ray C. Maul, Teacher Supply and Demand in Universities, Colleges and Junior Colleges, 1961-62 and 1962-6[illegible] Research Report 1963-R3 (Washington, D. C.: NEA, 1963), p. 9.

[4] John W. Nason, "Is There No Balm in Gilead?" Liberal Education, Vol. LI, No. 1 (March, 1965), pp. 9, 11.

[5] In an unpublished paper, "Problems and Projections in Higher Education," for the Commission on Plans and Objectives for Higher Education, American Council on Education. (This view was corrected by Cartter in 1964). Quoted in Allan M. Cartter, "A New Look at the Supply of College Teachers," Educational Record, Vol. XLVI, No. 3 (Summer, 1965), p. 268.

TABLE 65

PERCENTAGES OF FULL-TIME INSTRUCTIONAL STAFF WITH DOCTORAL DEGREES 1953-54 AND 1962-63

Category of Institution	1953-54 (NEA)[a]	1962-63 (O.E.)[b]
1	2	3
Public universities	44.0	58.4
Private universities	51.9	59.6
Public colleges	30.7	42.6
Private colleges	35.2	42.7
All institutions	40.5	50.6

[a] Teacher Supply and Demand in Degree-Granting Institutions, 1954-55. NEA Research Bulletin (December, 1955), p. 138.

[b] "Doctorates Among Teaching Faculty," paper presented at the annual meeting of the American Educational Research Association, Chicago, February 11, 1965. Table 3.

Whatever may be said of the validity of the opposing views concerning the potential supply of qualified persons from which the colleges and universities can recruit additions to their faculties, the committee on post-high school education in Oregon inclines toward the acceptance of the views expressed by Cartter, as follows:

1. The shortage of qualified college faculty "does not appear as critical as sometimes supposed . . ."[2]
2. There is still before American colleges and universities "a major task of expansion."
3. "There are, and will continue to be, critical shortages in certain fields of study."[3]
4. The problem of recruiting qualified faculty will continue to be greatest in institutions laying upon faculty members the heaviest burdens and providing the least rewards for academic service.[4]

Maintaining Oregon's Competitive Position

If Oregon's post-high school agencies and institutions are to maintain their present positions, or improve them academically, they must, as they expand their faculties, recruit faculty members who will, at the least, maintain the present level of quality of the departments, and, at best, upgrade the existing departments. Moreover, they must maintain salary and employment conditions that will enable them to retain their most able staff members in the face of the blandishments of sister institutions or of business, industry, or government. And should they lose a valued staff member, they must be able to replace him with one of equal value to the institution.

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[1] Ibid., p. 269.

[2] Ibid., p. 276.

[3] Ibid.

[4] Orlans, op. cit., p. 13.

The effort required to maintain, or improve, levels of quality of Oregon institutions is determined in large part by the character of the market place.

1. As the demand for qualified faculty increases in the face of a supply which grows less rapidly, the competition for qualified faculty grows more spirited, whatever the source from which the institution seeks to recruit - whether from among students completing graduate programs for the preparation of college teachers, or from among the faculties of sister institutions, or from the non-academic world (i.e., business, industry, government).

   What it is that makes institutions attractive to prospective faculty members has been variously described. Caplow and McGee, following a study of faculty vacancies and replacements occurring in nine major universities in the United States over a two-year period, suggest what seems a reasonable statement of the matter, as follows:

   > In general we may say that an institution's attractiveness to a candidate is determined by what it can offer him in the way of prestige, security and authority. The specific attraction is a function of the candidate's own situation, so that for example, prestige is usually the stronger lure for men on the way up, whereas security and authority become more attractive to men on the way down.[1]

   The prestige which an institution offers a present or potential faculty member is a function of the prestige of the institution, and/or the department in which the individual is or would be employed, and the rank or level of the position the institution is prepared to offer the individual. Departments within institutions differ in prestige. So, too, do institutions. But whatever the level of prestige enjoyed by the institution or department, self-interest pushes it to seek, through its policies governing initial employment and selective faculty retention, the upgrading of the status of the department and/or the institution.

2. There is operative, in the selection of faculty, a circular response: As an institution or department attracts more able staff members, so the prestige of the institution or department is enhanced. And as the prestige of the department or institution is enhanced by wise faculty additions, the capacity of the institution or department to attract able staff members is enhanced. Conversely, if departmental or institutional employment policies signify that faculty additions are likely to lower the prestige level of the department, the capacity of the department to retain the services of its most able faculty members is greatly lessened. For faculty members realize what Caplow and McGee suggest, as a result of their study:

   > The relationship between departmental prestige and the personal prestige of department members is reciprocal. Over a period of time, each man's personal prestige in his discipline is a partial function of his department's prestige, and vice versa. It becomes vitally important, then, to maintain the prestige of the department by hiring only individuals who seem likely to enhance it, since a decline in departmental prestige will be experienced by each individual member as a decline in his own prestige.[2]

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[1] Theodore Caplow and Reece J. McGee, The Academic Marketplace (New York, N. Y.: Science Editions, Inc., 1961), p. 147.
[2] Ibid., p. 108.

The consequences of the flight of its most able staff members, without the department's being able to make replacements of equal ability and prestige, are disastrous. For what the department tends to be left with are those of its faculty who are least mobile, least attractive to other institutions, least likely to serve the department in luring to it the academically attractive, mobile faculty members who are in demand and who are essential to the upbuilding of a high-quality department. Hence, the avidity with which institutions seek to maintain or to improve, through their faculty additions, the prestige and status of departments.

3. *In their recruitment of faculty members, colleges and universities operate primarily within a regional and a national market, with the larger universities of a state or region operating almost exclusively in a national market. The prestige of the departments, and of the institutions themselves, is reckoned both regionally and nationally. Insofar, then, as departmental and/or institutional prestige is a factor in faculty recruitment and retention, institutions tend to be competitively in the same market as institutions of comparable prestige throughout the nation. This is less true of the community colleges and the smaller liberal arts colleges, of course, than it is of the major universities.*

In their study of vacancies and replacements, Caplow and McGee came to the view that the college and university world could be divided into what they were pleased to refer to as the "major leagues," the "minor leagues," and the "bush leagues." They concluded that there are faculty exchanges as between the major and minor leagues. They also concluded that, as a rare occurrence, there are "downward exchanges" of faculty from the major-minor leagues to the "bush" leagues. But, they said, ". . . upward exchanges /from the bush to the major-minor leagues/ are unheard of."[1] While the foregoing observation may seem unduly sweeping, the reality of the hierarchical status of institutions, and the nationwide character of the recruiting market in which institutions move, must be recognized.

4. *The security that an institution offers a faculty member is a compound of the conditions under which he is permitted to work and the financial security the position offers. The former is at least as important as the latter in the calculus by which a college or university teacher assesses the attractiveness of a position.*

Teachers are principally occupied with the life of the mind. Their principal satisfactions derive from living under conditions offering the fullest freedom to promote effective development of the mind - their own and those of their students. Hence, they are concerned with assuring themselves the conditions of work necessary to their effectiveness as teacher-scholars -

- adequate library facilities
- stimulating and provocative colleagues with whom to interact
- an institutional tradition giving first rank to instructional and scholarly activities
- an adequate number of students with the interests and propensities for effective work in the area of the staff member's principal interest
- a schedule of work that does not preclude performance of high standard
- an administrative relationship which gives appropriate recognition to the importance of the teacher-scholar in the institution's operation
- protection in his work from unwarranted and debilitating interference from forces and influences seeking special privilege
- personnel policies which protect the teacher from the hazards of capricious or vindictive actions which would harass him or separate him from the institution without just cause

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[1] *Ibid.*, p. 149.

- personnel policies which provide the teacher with opportunity for leaves, periodically permitting him to "renew" himself through study and other activities
- adequate laboratory and classroom facilities, and adequate equipment

In short, the opportunity to live and work under the foregoing congenial conditions is the most important compensation an institution can provide the teacher-scholar.

5. But, though immersed in the life of the mind, teachers are, in their material needs and wants, not different from other professional people. They are concerned with sharing in the material abundance of our economy, with maintaining a reasonable standard of living, with providing for themselves and families a sense of economic security.

   Paraphrasing Ruml and Tickton, we would make one point unequivocally clear: Psychic income - the satisfaction derived from work well done - is not for teachers more of a substitute for economic income than it is for others. For the satisfaction deriving from work well done is not greater for teachers than for men and women in other occupations in which the talents and interests of the worker are matched with his job. In the words of Ruml and Tickton: "Work well done . . . by men and women in all occupations - has a value that goes beyond and is incommensurate with the dollars and cents received in pay. In this the teacher is no favored exception."[1]

Salary and Non-Salary Benefits in the Recruitment and Retention of Faculty

The degree of economic well-being and security that the teaching profession offers has an important bearing on higher education's ability to recruit, in competition with other professions requiring comparable ability and preparation, a fair share of the nation's ablest young people. Hence, if higher education is to remain competitive, it must expect to respond in competitive fashion as the other professions, with which it competes for able young people, increase the economic rewards they offer.

In the preparation of this report, no new statistical data were compiled to assess the extent to which higher education has been and is now competitive with comparable professions in the economic rewards it offers, but an examination of existing studies suggests the following:

1. In the half-century ending in 1953, instructors improved their absolute[2] position, associate and assistant professors have held their own. University presidents and eminent professors suffered a "drastic" reduction in their absolute position.[3]

2. The relative deterioration of education salaries was "very much worse" than the absolute deterioration.

3. Writing in 1955, Ruml and Tickton reported that:

   > The deterioration at the top is so great it affects the attractiveness of the academic career as compared to other professions and occupations. The ablest young men and women eligible for graduate and professional

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[1] Beardsley Ruml and Sidney G. Tickton, Teaching Salaries Then and Now (New York: The Fund for the Advancement of Education, 1955), p. 15.

[2] "Absolute comparisons present the situation then and now in terms of greater or less access to the material standard of living for the particular occupational group under study. Relative comparisons disclose how one occupational group has fared, not only absolutely but relative to other occupational groups." (Ibid., p. 17.)

[3] Ibid.

> training are not turning to education as they once did and as the nation's needs require.[1]

Speaking of 1955, the Ford Foundation observed that:

> It was . . . clear that the principal impediment to college teaching as a career was chronically low financial reward. Higher education could win a larger share of the nation's best talent only by adjusting its salaries to a more competitive position in the nation's professional market place. College teaching would have to be viewed in relation to other professions - medicine, law, engineering, business management - that were competing for the best people and that required comparable preparation.[2]

It was in this conviction that the Ford Foundation determined in 1955 to distribute $260 million among all 630 independent, accredited four-year colleges and universities for salary increases in an effort to stimulate the improvement of salaries.

4. Since 1949-50, according to the survey of the American Association of University Professors, there has been a steady increase in the weighted average salaries for all ranks of personnel in higher education (Table 66).

TABLE 66

PURCHASING POWER OF ACADEMIC SALARIES

(Weighted Average Salaries by Rank for the 36 Biennial Survey Institutions, Selected Years 1939-40 to 1964-65 and Projected Salaries for 1969-70, 1964 Dollars)[1]

Year 1	Professor 2	Associate Professor 3	Assistant Professor 4	Instructor 5	All Ranks 6
1939-40	$12,360	$ 8,670	$ 6,920	$4,800	$ 8,480
1949-50	9,750	7,310	5,850	4,450	6,920
1959-60	12,560	9,090	7,230	5,540	9,220
1964-65	15,230	10,530	8,520	6,700	11,210
1969-70[2]	18,500	12,200	10,000	8,000	13,500

[1] The consumer price index was projected to 1969 by assuming the annual compound rate of increase (1.2 percent) from 1960 to 1964 continues until 1969. Source of price index: U. S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States; Board of Governors of the Federal Reserve System, Federal Reserve Bulletin, current issues.

[2] Projected from 1964-65 by assuming average annual compound rate of growth from 1960 to 1964 continues throughout the decade.

Source: William J. Baumol and Peggy Heim, "The Economic Status of the Academic Profession: Taking Stock: 1964-65," AAUP Bulletin, Vol. 51, No. 3 (June, 1965), p. 249.

In presenting the data included in Table 66, above, the American Association of University Professors cautions that the extension of the salaries beyond 1964-65 is not an attempt to predict future incomes, "but rather to answer the question how will we fare if the trends of recent years are continued through the current decade."[1] Column 6 of Table 66 shows clearly that, for all ranks, the purchasing power in 1964 dollars declined from approximately $8,500 at the close of the decade of the 1930's to approximately $7,000 at the close of the decade of the 1940's. Since then the purchasing power for "all ranks" has been increasing, moving to $11,210 by 1964-65. In its 1965 study, AAUP estimated that, given a continuation of salary trends, purchasing power for "all ranks" should, by 1969, "reach a point more than 50 percent above its 1939 level, and 85% above the 1949 level."[2]

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[1] Ibid., p. 19.

[2] Ford Foundation, The Pay of Professors, loc. cit., p. 3

5. In recent years, faculty salaries have been rising in comparison with those of other persons. But, according to the AAUP study, this relative increase has not restored the relative position occupied by college and university personnel immediately prior to the 1940's (Table 67).[3]

The 1965 study by the Ammerican Association of University Professors reported that, in 1939-40, the relative income of college and university personnel (all ranks combined) was over 50 percent higher than in 1964-65, and that the projected 1969 figure will leave college teachers roughly $5,000 short of their pre-war position.

TABLE 67

ACADEMIC SALARIES COMPARED WITH U.S.
PER CAPITA INCOME

(Weighted Average Salaries by Rank for the 36 Biennial Survey Institutions, Adjusted for Changes in Per Capita Personal Income, Selected Years 1939 to 1969 Estimated)[1]
(1963=100)

Year 1	Professor 2	Associate Professor 3	Assistant Professor 4	Instructor 5	All Ranks 6
1939-40	$25,170	$17,650	$14,080	$9,780	$17,270
1949-50	13,760	10,320	8,260	6,280	9,760
1959-60	13,310	9,630	7,660	5,870	9,780
1964-65	14,740	10,200	8,250	6,480	10,850
1969-70[2]	16,100	10,600	8,800	7,000	11,800

[1] Average salaries for the biennial survey were adjusted to take into account the more than three-fold growth in per capita personal income from 1939 to 1964, the most recent year for which data are available. This was done by calculating an index of per capita personal income (in current dollars) with 1963 as 100 and multiplying biennial salaries (in current dollars) by the index reciprocal for the specified year. Estimates of per capita personal income for 1964 and 1969 were obtained by assuming the average annual compound increase from 1960 to 1963 (3.3 percent) continues until 1969. Data for per capita personal income were obtained from Statistical Abstract of the United States, various years.

[2] Projected from 1964-65 by assuming average annual compound rate of growth from 1960 to 1964 continues throughout the decade.

Source: Baumol and Hein, op. cit., p. 250.

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[1] Ford Foundation, The Pay of Professors, loc. cit., p. 3.

[2] Ibid., p. 249.

[3] Ibid., Table 3, p. 250.

6. Despite the fact that, since 1949-50, there has been a steady increase in the weighted average salaries for all ranks of personnel in higher education, and, although faculty salaries have been rising in comparison with those of other persons, it seems clear that, present trends continuing, academic salaries, nationally, will, on the average, still not be competitive with the higher paying professions with which higher education must compete as it recruits young people for the teaching profession.

At the beginning of the decade of the 1960's, the American Council on Education established a salary goal which called for the doubling of academic salaries during the decade, in an effort to improve higher education's competitive position. But with the decade half gone, the AAUP reports that its "most sanguine projection does not support an estimate of the increase in faculty salaries greater than 66 percent over the current decade."[1] Moreover, the AAUP reports that *if* academic salaries were to double during the decade of the 1960's, they would still have to be increased by an additional 49 percent beyond that "in order to reach the average earnings of the top ten percent in the list of professions [48 selected professions included in the AAUP study]."[2]

Salaries in the State System of Higher Education

7. In the decade 1955-56 to 1965-66, academic salaries of all nine-month teaching staff in the institutions of the State System of Higher Education increased, on the average, for all ranks, 75.2 percent (Table 68).

TABLE 68

AVERAGE FACULTY SALARIES IN STATE SYSTEM OF HIGHER EDUCATION
1955-56, 1964-65, and 1965-66

Faculty Rank	Average Salaries 1955-56	Average Salaries 1964-65	Average Salaries 1965-66	Percentage Increase 1955-56 to 1964-65	Percentage Increase 1955-56 to 1965-66
1	2	3	4	5	6
Professor	$7,618	$12,508	$13,596	64.2	78.5
Associate Professor	6,108	9,547	10,342	56.3	69.3
Assistant Professor	5,022	7,756	8,387	54.4	67.0
Instructor	4,209	6,266	6,804	48.9	61.7
All Ranks	5,687	9,109	9,964	60.2	75.2

Source: Office of Institutional Research, State System of Higher Education.

It will be observed in Table 68 that the percentage increase in average salaries during the decade has been highest for professors (78.5 percent), with a slightly diminishing percentage increase for each of the lesser ranks: associate professor (69.3 percent), assistant professor (67.0 percent), and instructor (61.7 percent).

In this characteristic Oregon follows the national pattern, as observed by the American Association of University Professors:

> As in each of the years since 1960-61, the first year for which we have consistent data, full professors' compensations increased more rapidly than those of the profession as a whole. . . . Indeed, during

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[1] *Ibid.*, p. 253.
[2] *Ibid.*,

> the past year and each of the three years that preceded it, academic rank was perfectly correlated with rate of increase in compensations - the higher the rank, the more rapid the percentage increase. This means that the differential in compensation among ranks has been widening slightly. . . .[1]

8. In the period 1957-58 to 1966-67, UO-OSU combined have lost ground in academic salaries, when compared with the 19 state universities with which they are traditionally compared. UO-OSU ranked eighth among the 20 institutions in average academic salaries for all ranks in 1957-58; fourteenth in 1965-66.

   Traditionally, for salary comparisons, UO-OSU combined salaries have been related to salaries in 19 state universities, representing a cross section of institutions with which, presumably, UO-OSU are in competition for faculty members.[2] Comparative salary figures for the period 1957-58 to 1966-67 are given in Table 69, page 315.

   It will be observed in column 4 of Table 69 that, in 1957-58, the average faculty salary for all ranks at UO-OSU combined was 98.7 percent of that of the 19 state universities, weighted according to the number of faculty members in each institution. It will also be noted that since 1957-58, UO-OSU have never been in as favorable a position vis-a-vis these 19 institutions. The first year of each biennium, the UO-OSU position has improved slightly, only to fall back in the second year of the biennium. In 1966-67, the two Oregon universities have an average salary 92.5 percent of the estimated average for the 19 state universities, a drop from 95.3 percent in 1965-66. The figures for 1967-68 and 1968-69 merely suggest the salary average that the state system office of institutional research estimates would be required to bring UO-OSU to a parity with the estimated average for these 19 institutions.

   The foregoing relationships can be seen graphically in Figures XXIII and XXIV, pp. 316 and 317.

   The relationship of the UO-OSU salary averages for all academic ranks, and for each academic rank for 1965-66, to salary averages in the 19 institutions for comparable ranks is shown in Table 70, p. 318. It will be observed that among the 20 institutions (includes UO-OSU), UO-OSU ranked fourteenth in two instances (all ranks, instructors), fifteenth in two (professors, associate professors), and sixteenth in the fifth (assistant professors).

   Table 70 also presents information concerning the percentage increase in average salaries for all academic ranks in the 19 institutions for the period 1957-58 to 1965-66, with corresponding figures for UO-OSU. The data reveal that of the 20 institutions, UO-OSU stood in the following rank in terms of the increases in average salaries from 1957-58 to 1965-66: tied for seventeenth (all ranks), nineteenth (professors), tied for nineteenth (associate professors), tied for eighteenth (assistant professors), and tied for fifteenth place (instructors).

Salaries - Independent Colleges and Universities

9. Average salaries of faculty members in the independent colleges and universities of Oregon vary rather widely, as might be anticipated in view of the wide variations in size, fiscal base, and prestige of the institutions. The range in

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[1] William J. Baumol and Peggy Heim, "Economic Status of the Profession, Report on the Self-Grading Compensation Survey 1965-66," AAUP Bulletin, Vol. 52, No. 2, June 1966, p. 141.

[2] These 19 state universities are located as follows: Pacific Coast, 3; Mountain States, 4; Midwest, 10; South Altantic, 1; and West South Central, 1.

TABLE 69

COMPOSITE ANNUAL SALARY AVERAGES - INSTRUCTOR THROUGH PROFESSOR
IN 20 SELECTED STATE UNIVERSITIES

(Actual 1957-58 Through 1966-67, Estimated 1967-68 and 1968-69)

Year	Average Salary		Percent UO-OSU Average Salary Was of Those in 19 State Univ. (Weighted)	Average Salary		Percent UO-OSU Average Salary Was of Those in 19 State Univ. (Unweighted)
	19 State Univ.[1] (Weighted)[2]	UO-OSU Combined		19 State Univ. (Unweighted)[2]	UO-OSU Combined	
1	2	3	4	5	6	7
1957-58	$ 7,508	$ 7,410	98.7	$ 7,120	$ 7,410	104.1
1958-59	7,649	7,275	95.1	7,284	7,275	99.9
1959-60	8,207	7,590	92.5	7,856	7,590	96.6
1960-61	8,618	7,889	91.5	8,200	7,889	96.2
1961-62	9,109	8,601	94.4	8,728	8,601	98.5
1962-63	9,622	8,986	93.4	9,177	8,986	97.9
1963-64	10,045	9,466	94.2	9,687	9,466	97.7
1964-65	10,561	9,693	91.8	10,225	9,693	94.8
1965-66	11,272	10,741	95.3	10,949	10,741	98.1
1966-67	11,892[a]	10,995	92.5	11,606[a]	10,995	94.7
1967-68	12,546[a]	12,546[a]	100.00	12,302[a]	12,302[a]	100.00
1968-69	13,236[a]	13,236[a]	100.00	13,040[a]	13,040[a]	100.00

[1] The 19 state universities are located as follows: Pacific Coast, 3; Mountain States, 4; Midwest, 10; South Atlantic, 1; West South Central, 1.

[2] Weighting is given in accordance with the number of staff members in an institution. The unweighted average salaries are the average salaries of the 19 institutions, without regard to differences in number on the faculty.

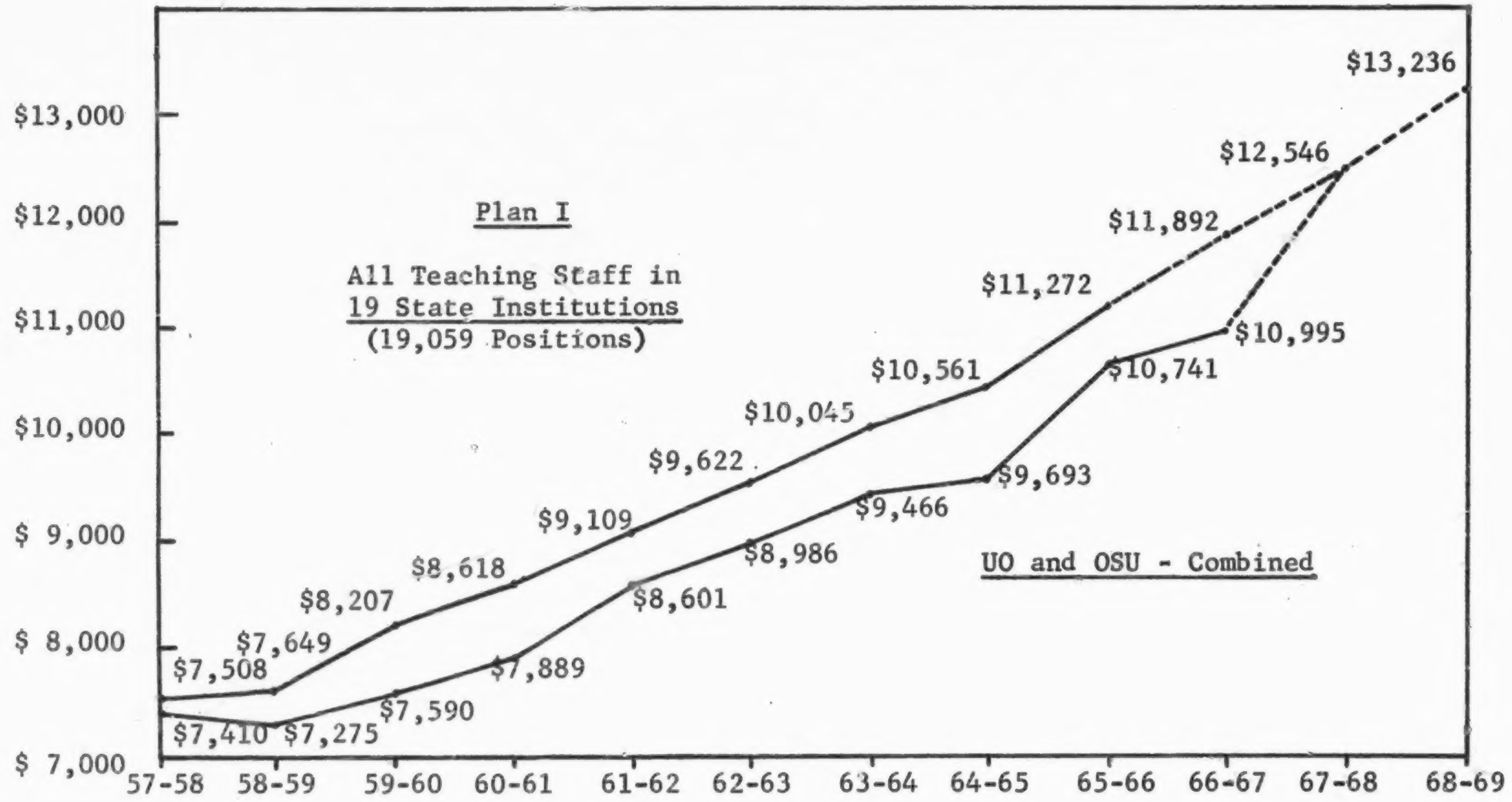
[a] Estimated.

Source: Office of Institutional Research, State System of Higher Education.

FIGURE XXIII

SALARY PLAN I, STATE SYSTEM OF HIGHER EDUCATION

Composite Annual Salary Averages of the Four Ranks of Teaching Staff (Instructor through Professor)
Actual for Years 1957-58 through 1966-67 and Estimated for Years 1967-68 through 1968-69
U of O and OSU Compared with 19 State Universities with which Oregon Regularly Compares Salary Averages Showing
Salary Rates Required for U of O and OSU Combined during Years 1967-68 and 1968-69, if Oregon is to maintain a
Parity Position in Relation to the Average Salaries of all Teaching Positions for the 19 Institutions



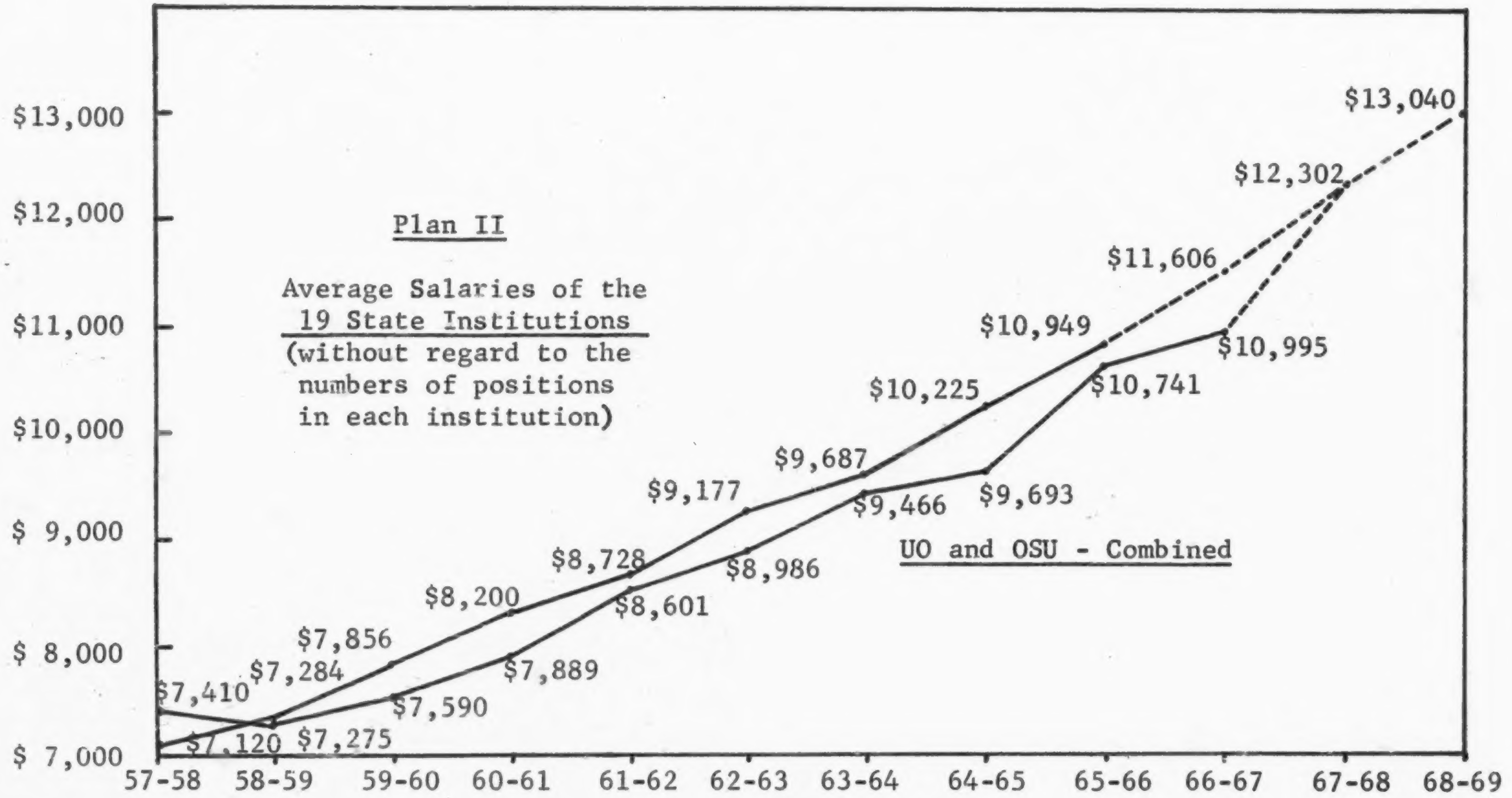
Note: To achieve the above composite salary rates for the University of Oregon and Oregon State University it would be necessary to provide an annual salary improvement fund of 14.11% for year 1967-68 and 5.50% for year 1968-69 for the two institutions. Slightly higher percentages would be required at the other institutions to maintain the current authorized dollar differential.

Source: Office of Institutional Research, State System of Higher Education.

FIGURE XXIV

SALARY PLAN II, STATE SYSTEM OF HIGHER EDUCATION

Composite Annual Salary Averages of the Four Ranks of Teaching Staff (Instructor through Professor)
Actual for Years 1957-58 through 1966-67 and Estimated for Years 1967-68 through 1968-69
U of O and OSU Compared with 19 State Universities with which Oregon Regularly Compares Salary Averages Showing Salary Rates Required for U of O and OSU Combined during Years 1967-68 and 1968-69, if Oregon is to Maintain a Parity Position in Relation to the Average Salary for the 19 Institutions Without Regard to the Numbers of Positions in Each Institution



Note: To achieve the above composite salary rates for the University of Oregon and Oregon State University it would be necessary to provide an annual salary improvement fund of 11.89% for year 1967-68 and 6.00% for year 1968-69 for the two institutions. Slightly higher percentages would be required at the other institutions to maintain the current authorized dollar differential.

Source: Office of Institutional Research, State System of Higher Education.

average academic salaries in 1964-65 was from $5,000 in one of the smaller institutions to $9,342 in one of the larger institutions.

TABLE 70

SALARY DATA, ACADEMIC-YEAR TEACHING STAFFS, 1957-58 AND 1965-66
19 STATE UNIVERSITIES AND THE UO-OSU COMBINED

Instructional Rank	Range for 19 Institutions	UO-OSU Data	Rank of UO-OSU Among 20 Institutions (19 plus UO-OSU)
1	2	3	4
	1965-66 Average Salaries		
All Ranks	$ 8,540 - $12,930	$10,741	14
Professors	10,948 - 17,115	14,126	15
Associate Prof.	9,473 - 12,038	10,681	15
Asst. Professors	7,958 - 9,579	8,588	16
Instructors	6,324 - 7,502	6,723	14
	Percent Increase in Average Salaries 1957-58 to 1965-66		
All Ranks	32% - 75%	45%	17.5
Professors	38% - 93%	40%	19
Associate Prof.	37% - 84%	37%	19.5
Asst. Professors	36% - 69%	37%	18.5
Instructors	28% - 57%	33%	15.5

Note: This table should be read as follows: The average annual salaries for all ranks in 1965-66 in the 19 state universities ranged from an average of $8,540 in the institution having the lowest average, to $12,930 in the institution having the highest average - the average at UO-OSU combined was $10,741 which placed UO-OSU in fourteenth place of 20 institutions. (In 1957-58, UO-OSU were in eighth place.)
Source: Office of Institutional Research, State System of Higher Education.

Of the 11 independent colleges and universities participating in this portion of the study, the four with the lowest average academic salaries for 1964-65 (ranging from $5,000 to $6,140) were the four smallest institutions (having fewer than 40 FTE faculty). Among the largest institutions (having a faculty FTE of 75 or more) the range in average salaries for 1964-65 was from $6,805 to $9,342. The latter average, it will be observed, is slightly higher than the average salary for all academic ranks in the state system institutions in 1964-65 ($9,109). (Table 68, col. 3, p. 313.)

It should be remembered that seven of the 11 independent institutions have a church affiliation which assists both in recruitment and retention of staff. For, at least in some instances in these institutions, religious loyalties serve to reinforce institutional loyalties. Moreover, in the independent colleges there is often found a commitment to the purposes served in American higher education by the independent colleges and universities, which insulates faculty members from the appeal that, in some instances, financially greener pastures in the public institutions might offer.

Salaries - Community Colleges

The average salaries of full-time teachers in the community colleges in 1965-66 ranged from $7,029 to $8,098. The average for all full-time teachers in the nine community colleges of Oregon was $7,569.

10. The community colleges are in their formative years. As they develop, it should be anticipated that the conditions and responsibilities of academic employment in these colleges will approach more and more those of the four-year colleges employing staff with the same characteristics as those employed by the community colleges.

    If the community colleges are to develop an authentic place in higher education in Oregon, rather than to be thought of by aspiring teachers as stepping stones into teaching positions in four-year institutions, the conditions of teaching, including salaries and nonsalary benefits, must approach those of persons of comparable professional training and education employed in the liberal arts colleges. It appears that this is the trend nationally. The statistics compiled by the American Association of University Professors for 1964-65 indicated that the weighted average salary in the public junior colleges was $11,338, which compared favorably with the averages in the liberal arts colleges (public, $11,828; private independent, $12,000; and church-related, $10,132).[1]

Nonsalary Benefits

"Salary alone seldom provides the most effective compensation."[2]

Certain nonsalary benefits, sometimes referred to as "fringe benefits," provide a means of compensating the faculty in ways that may give the faculty more than if an equivalent amount had been added to the salary funds. Thus it is, that institutions of higher education, like business, industry, and government, have developed a whole series of nonsalary benefits for their employees.

Retirement and insurance of various kinds (e.g., life, health and accident, major medical, liability, disability income) are perhaps the most commonly offered nonsalary benefits. Others, less common, and varying widely from institution to institution in importance, form, and need, are identified by Ingraham as follows:

1. Those chiefly for the financial or personal advantage of the individual faculty member, such as:

    Housing - rental programs, in which the institution rents to faculty members, for short-term or long-time occupancy; mortgage programs in which the institution takes low-rate mortgages on faculty members' homes.
    Educational privileges - waiver of college tuition for faculty children, aid to faculty children attending other institutions, faculty "tuition exchange," educational loans.
    Health Provisions - health service, continuation of salary during illness through salary provisions or disability insurance.
    Loans and emergency funds.
    Moving expenses - for new faculty members or selected new faculty members.
    Discount purchases - the purchase of items for faculty through the business office.
    Recreational athletic facilities and special events - open to faculty, usually

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[1] Ibid., p. 256.

[2] Mark H. Ingraham and Francis P. King, The Outer Fringe: Faculty Benefits Other Than Annuities and Insurance (Madison, Wisconsin: University of Wisconsin Press, 1965), p. 4.

free in private institutions and at reduced charges in the public institutions.
Selected other miscellaneous benefits

2. Benefits largely ancillary to the work of the faculty member, such as:

   Leaves - sabbatical leaves, leaves of absence without pay, leaves of absence financed by funds from special grants and contracts, etc.
   Faculty-travel expenses - to professional meetings.
   Faculty club
   Parking
   Secretarial help

Considerations Affecting Nonsalary Benefits

1. Salary is such a direct means of recognizing faculty merit that decision to pay less in salary in order to provide more in nonsalary benefits must proceed from a careful institutional assessment of the advantages of alternative uses of institutional funds.

   The ultimate aim of the institution's salary and emolument policies must be to enhance the institution's capacity for effective service. The contribution these policies make to this aim is in their creation of conditions attractive to able faculty members - conditions which will permit the institution to attract and to retain in service competent teacher-scholars. When a given nonsalary benefit would appear to make a greater contribution to conditions attractive to able faculty members than would the distribution of a like amount in salary, the institutional decision is likely to favor the nonsalary benefit.

2. Institutional choices as to the particular pattern of nonsalary benefits to be provided are based, in some instances, upon complicated considerations such as the tax advantage of one form of emolument compared with another, the advantages of group or institutional action in some instances, and what Ingraham refers to as "many lesser or less frequent considerations, whose sum often is major and whose importance varies from campus to campus."[1]

3. Since a major justification of nonsalary benefits is the relative contribution they make to faculty morale and sense of well-being, compared with the contribution to faculty satisfaction that could be made by any other alternative use of the funds, it becomes important that in the development of the pattern of benefits, the faculty be represented and that faculty sentiment be an important consideration in the decision.

   Nationally, retirement and various forms of insurance are perhaps the nonsalary benefits most commonly provided.

Nonsalary Benefits in the Oregon State System of Higher Education

It is estimated that the nonsalary benefits in the State System of Higher Education institutions have more than doubled during the period 1955-56 to 1965-66.

This increase has resulted largely from increased social security contributions and liberalized opportunities for public employee retirement system investment on the part of staff members. An amount equal to approximately six percent of the state system payroll is devoted to payment of these and other nonsalary benefits for staff members. Faculty members in the state system are covered by the state industrial accident insurance and general liability insurance is provided by the state system.

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[1] Ibid., p. 135.

The most recent legislative additions to nonsalary benefits for the state system were made by the 1965 Legislative Assembly, which authorized participation of state system institutions in the TIAA-CREF program and also made provision for faculty members to participate in a tax-deferred annuity plan.

The former is considered a most important benefit in the recruitment of new staff. As a supplemental annuity program,TIAA-CREF commits the state to a slightly larger contribution to the faculty member's supplemental annuity than would be made in the case of the public employees retirement system. Perhaps even more important than the added state contribution is the fact that TIAA-CREF, being a national program, the faculty member is able to maintain his membership with all of the rights and privileges attached thereto, should he move from one institution to another. This is of particular importance when an institution is seeking to recruit a staff member from a sister institution which is affiliated with TIAA-CREF.

The legislative action with respect to tax-deferred annuities permits employees of the state system to participate in the tax-deferred annuity program made possible under the federal income tax laws applicable to employees of educational institutions.

Finally, the TIAA-CREF program offers the faculty member the option of having a portion of the supplemental annuity funds invested in common stocks, as a hedge against inflation.

Briefly to recapitulate, the nonsalary benefits available to staff in the institutions of the state system are as follows:

Available on a matching or shared basis

Social Security
Public Retirement
TIAA-CREF Supplemental Annuity Retirement Program (January 1, 1967)

Provided by the State Board of Higher Education

State Industrial Accident Insurance
Liability Insurance

Available - Paid by staff members who desire it

Health and Accident Insurance - available in all 9 units of the state system.
Life Insurance - available in all 9 units of the state system.
Accidental Death and Dismemberment Insurance - available in all 9 of the units of the state system.
Disability Insurance - available in 7 of the 9 units of the state system.
Tax-Deferred Annuity Program - available in all 9 of the units of the state system.

Nonsalary Benefits in the Independent Colleges and Universities

As might be anticipated, there is a wider variation among the independent colleges and universities than among state system institutions in the number and nature of the nonsalary benefits offered faculty.

The general nature of the range in benefits in the independent colleges and universities is suggested by the fact that in one of the smaller colleges the college meets the total cost of one benefit (liability insurance) and shares with its faculty the cost of two others (social security, health and accident insurance), while in one of the larger independent colleges, the institution pays the total cost of five nonsalary benefits (major medical insurance, life insurance, liability insurance, TIAA annuity) and it shares with its faculty the cost of three other benefits (social security, health and accident insurance, tuition remission for children of faculty).

A rough profile of the nonsalary benefits in the independent colleges and universities may be seen in Table 71, p. 323 in juxtaposition with the profile of benefits available in the state system institutions and the community colleges.

It will be observed that tuition remission for children of faculty members in the independent institutions is available at institutional cost in 7 of the 12 independent institutions reporting this aspect of the study. One other shares the cost with its faculty members. This benefit is available in none of the state system institutions and only one of the community colleges.

Two other points emerge from Table 71: (1) The independent colleges and universities frequently provide at institutional expense, or shared expense, various kinds of insurance that are available to faculties in the state system only if they pay the full cost (e.g., major medical, health and accident, disability income, life). However, liability insurance and state industrial accident insurance are provided faculty in the state system without cost to them, whereas this protection is not available to some faculties in the independent institutions, and to others only on a shared cost basis. (2) The state shares in the provision of retirement and TIAA-CREF annuity payments for faculties in the state system institutions. TIAA-CREF is reportedly available at only 5 of the 12 independent institutions, with the institution paying the full cost thereon in one instance, and sharing the cost with the faculty at 4 other institutions.

It seems likely that the effect of nonsalary benefits upon the ability of an institution to recruit and retain faculty members in service is more dependent upon the relative value of the benefits than upon their absolute value.

So long as an institution's nonsalary benefits are reasonably comparable with those in institutions or businesses and governmental agencies with which it competes for staff, their absolute value will be of little moment in the recruitment effort. This, of course, argues for institutions to keep abreast, at least, of their most important competitors.

The Uses of the Faculty

It is a continuing reproach to the colleges and universities that they represent one of the strangest paradoxes to be found.

- On the one hand we are committed to freedom of inquiry, to the exploration of the unknown, to the challenging of facts and principles presently accepted. We declaim our commitment to research - to change. We compete avidly with sister institutions for the services of research-oriented teacher-scholars. And it is true beyond cavil that the research flowing from our colleges and universities has transformed the world in which we live.

- Yet, it is said, we, who are prime agents of change generally, are, in those areas affecting our own operations, strangely resistive to change. Even within the academic family there are many who believe that we are guided in our operations more by folklore and fantasy than by the hard realities of the situation; that "the main things that have happened to the universities in recent years have happened as a result of initiative from outside the universities."[1]

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[1] John W. Gardner, "Government and the Universities," Emerging Patterns in American Higher Education, ed., Logan Wilson (Washington, D.C.: American Council on Education, 1965), p. 292.

TABLE 71

NONSALARY BENEFITS - STATE SYSTEM AND INDEPENDENT COLLEGES AND UNIVERSITIES AND COMMUNITY COLLEGES, 1965

(State System Institutions, N=9) (Independent Institutions, N=12)
(Community Colleges, N=9)

Nonsalary Benefit	Category of Institution	Number of Institutions Providing Benefit Categorized by Means of Paying Cost			Total Instits. Reporting Benefit
		Cost Matched or Shared	Cost Paid by Institution	Cost Paid by Faculty	
1	2	3	4	5	6
Social Security	State System	9	-	-	9
	Independent	11	-	1	12
	Com. Colleges	9	-	-	9
Major Med. Ins.	State System	-	-	5	5
	Independent	2	6	2	10
	Com. Colleges	1	-	8	9
Health and Acc. Insurance	State System	-	-	9	9
	Independent	3	2	6	11
	Com. Colleges	1	-	8	9
Disability Income Insurance	State System	-	-	7	7
	Independent	-	2	1	3
	Com. Colleges	-	-	-	-
Accidental Death & Dismemberment Insurance	State System	-	-	9	9
	Independent	2	2[a]	1	5
	Com. Colleges	-	-	-	-
Life Insurance	State System	-	-	9	9
	Independent	2	4	-	6
	Com. Colleges	-	-	3	3
Liability Ins.	State System	-	9	-	9
	Independent	1	4	-	5
	Com. Colleges	-	9	-	9
State Industrial Accident Ins.	State System	-	9	-	9
	Independent	2	7	-	9
	Com. Colleges	9	-	-	9
Tuition Remission (for children of faculty members)	State System	-	-	-	-
	Independent	1	7	1	9
	Com. Colleges	-	1	-	1
Retirement	State System	9	-	-	9
	Independent	3	-	-	3
	Com. Colleges	9	-	-	9
TIAA-CREF Annuity	State System	9	-	-	9
	Independent	4	1	-	5
	Com. Colleges	-	-	-	-

Other nonsalary benefits reported by independent institutions: meals, 1; lunches, 1.

[a] Provided for certain traveling faculty, only, at one institution.

Source: Office of Business Affairs, State System; independent colleges and universities; State Department of Education.

This seeming paradox is of much more than academic interest. The various external and internal pressures upon post-high school education have so affected the educational demand-educational resource equation in Oregon that no concession to academic tradition can be permitted to affect adversely our making the fullest and most efficient use of our educational resources. What is defensible in our operations only on the basis of tradition can have no valid claim upon the state's financial resources, strained as they will be in meeting the increasing demands upon them.

It is in the instructional program - particularly in the uses of the faculty - that institutions are most often challenged to work a change in the interests of greater efficiency. Instruction being the principal purpose of our institutions and the central item of the institutional general fund budget, it is in this area that any change in the direction of greater efficiency would have the greatest overall fiscal impact.

There is no question but that our institutions are entering upon a period of rapid expansion - with resultant staffing and fiscal problems. In the face of this expansion and these problems, two recurring questions are heard: Must the faculty and the costs of education increase in the future proportionately with the increase in enrollments? Cannot some changes be worked in the instructional sphere which will result in greater efficiency in the use of our resources? These are reasonable questions. They deserve serious consideration and reasoned responses.

Before coming to a brief enumeration and analysis of the several approaches under discussion for improving the efficiency of faculty use, we digress to refer briefly to some aspects of the dynamics of curricular change. For an open-minded appraisal and application, where warranted, of the approaches hereinafter discussed are dependent upon a recognition of these dynamics.

Securing an Open-Minded Appraisal of Instructional Devices and Methods

As a practical matter, it is the faculty which must ultimately live with, and make operative, any curricular changes. The administrator (above department heads) has power over the personal fortunes of faculty through the exercise of the appointive power, and the administration of tenure and promotion policies and salary budgets. But the central importance of the faculty in the administration of the curriculum has increasingly cast the faculty in the key, if not dominant, role in the curricular area.

We do not mean to imply that the college or university administrator has no obligation to survey the whole curriculum and to endeavor to discover the interrelationships of its several parts which would have most relevance for the aims of the institution. Obviously he must. For the curriculum is the means to the ends for which the institution exists. Moreover, by their very nature, the departments within an institution tend to represent what one writer has referred to as "a loose federation of rival departments,"[1] and curriculum building, the "balancing of the claims of pressure groups."[2] The administrator must himself be everlastingly aware of curricular issues, that from this competitive climate may emerge a consistent, integrated curriculum.

> He must then try to induce those to whose care the curriculum has been committed to face the problems it raises as persistently, as seriously, and as impartially as possible. In this connection, too, the administrator must be a trouble maker; for every change in education is a change in the habits of some members of the faculty. Nevertheless,

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[1] Willard L. Thorp, "Probabilities and Possibilities," *Financing Higher Education 1960-70*, (New York City: McGraw-Hill Book Company, Inc., 1959), p. 291.

[2] Lewis B. Mayhew, "Curricular Reform and Faculty Well-Being," *The Educational Record*, Vol. XLIV, No. 1 (January 1963), p. 59.

> the administrator must insist on the participation of the faculty in the constant reconsideration of the means which it is using to attain the end of the university; for his duty is not merely to decide upon the classes of cases committed to his care, but also to see to it that the other members of the [academic] community do not become officeholders in relation to the categories committed to theirs.[1]

We think it important to the securing of an open-minded appraisal of propositions for improving the efficiency of faculty use that the faculties of the institutions be involved from the outset and throughout the appraisal and in the development of the decisions which emerge. We are of the opinion that no effective and lasting changes in instructional matters can be achieved without the cooperation and the support of the faculty.

We acknowledge that such an approach does not make for speedy decisions. And it does require patience. But we believe with Hutchins that " . . . the university president who wants durable action, not just action, must have patience, and have it in amounts equal to the durability desired."[2]

There is some foundation to the assertion that educational enterprises, like other organizations, are often prejudiced against change. We believe that such prejudice is heightened if it appears to the faculty that the administration is pressing for curricular or instructional changes on the basis of uncritical acceptance of roseate promises of increased educational efficiency and economy. If the faculty senses that the administration is building up false hopes as to what may be achieved by new instructional devices or methods, their resistance may be more a matter of resistance to administrative incursions into the faculty's domain, than it is to the changes themselves. When this occurs, it is difficult, if not impossible, to secure from the faculty an impartial, open-minded assessment of a potentially useful method or device.

One thing more. We believe that faculty cooperation in the achieving of greater efficiency in faculty use can be most effectively promoted when the institution makes it clear to the faculty that greater efficiency in faculty use will redound to the benefit of the faculty members in some very practical manner (i.e., increased salaries, reduction in teaching load, etc.).

Faculty members, like others, exhibit that human propensity to hold fast to what one has, unless, in letting go, there is real prospect that one's lot will be bettered. Mayhew observes that:

> Faculty members are highly suspicious that any savings which might be brought about by curricular reforms would not be used for faculty welfare but for administrative purposes instead. Many will say that their presidents are so interested in plant development programs that any surplus funds go directly there rather than into the salaries of faculty. Hence, the faculty member might just as well have the satisfaction of teaching a variety of courses and living with the illusion that in his teaching he is dealing with the frontiers of knowledge.[3]

The Efficient Use of Faculty

The extent to which the increasing enrollments in post-high school education will result in commensurate increases in faculty is dependent in an important measure upon the assumptions the institutions make as to: (1) the relationship of the student-teacher ratio and of class size to the quality of education; (2) the degree to which,

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[1] Robert M. Hutchins, Freedom, Education and the Fund (New York, N.Y.: Meridian Books, 1956), p. 176.

[2] Ibid., p. 187.

[3] Mayhew, op. cit., p. 60.

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in the future, we may depend less upon face-to-face classroom situation and more upon the students' independent study as a basis for student learning; (3) the extent to which the new educational devices, such as educational television, programed learning, and teaching machines, can be used to minimize the need for faculty additions as enrollments rise; and (4) the importance of curricular reform, resulting in a reduction in numbers of courses offered and a concurrent increase in the size of classes.

Faculty-Student Ratio and Size of Classes. The assumption is commonly made that instructional effectiveness is related to the ratio of faculty to students; that if the ratio is relatively low, classes can be smaller, instructional methods more effective than the lecture can be employed, and the student will have a generally closer, generally more effective relationship to the teacher.

Teacher-student ratios differ a great deal among institutions. The "prestige" independent institutions have very low teacher-student ratios compared with the public institutions generally. The 1966 edition of Lovejoy's College Guide lists Harvard, Yale, Princeton, and Columbia as having ratios of 1:4, 1:6, 1:6, and 1:8, respectively. Stanford and the University of Southern California are reported to have ratios of 1:11, Michigan State 1:14, and Oregon State University and the University of Oregon, 1:16. The state system office of institutional research estimates the teacher-student ratio for the six multi-purpose institutions of the state system (UO, OSU, PSC, EOC, OCE, and SOC) as 1:17 (FTE) for 1966-67.

In some measure these differences may be accounted for by relative emphasis given to graduate work in the institutions, since graduate work necessarily requires a lower teacher-student ratio than undergraduate work generally. But relative emphasis given to graduate work is not the entire explanation. For it is widely believed that smaller classes, made possible by the lower teacher-student ratio, are more effective than larger classes.

Demands for maximum efficiency in the use of faculty continue to raise the question of the feasibility of increasing teacher-student ratios and the size of classes. There are those in higher education and out, including some college administrators, who propose that class sizes should be deliberately increased. They assert that available research gives no support to the assumption that students learn better or more in a small class than they can in a large one. Illustrative of this view are statements by Alvin Eurich of the Ford Foundation and Lewis Mayhew of Stanford University. The former asserts that, judging from research, class size, measured in terms of student achievement, appears "to be a relatively minor factor in educational efficiency."[1] Mayhew comments that, "The blunt fact is that class size has very little relationship to student achievement."[2]

It is unquestionably true that there are numerous courses at the upper-division level (junior and senior years) which could, to an advantage, enroll a larger number of students. "Most institutions," says Algo Henderson of the Center for the Study of Higher Education at the University of Michigan, "have dozens of upper-class courses that are too small for good teaching or discussion."[3] There would be fewer such underenrolled courses if there were fewer upper-class courses offered. Which suggests the continuing need for institutional review of the course structure in the several academic departments of the institutions, as we shall discuss in connection with curricular reform (pp. 330-332).

Willard L. Thorp, director of the Merrill Center for Economics, Amherst, writing in the volume Financing Higher Education 1960-1970, asserts that "it seems inevitable that the student-teacher ratio will rise."[1] If it does, it is probable, as Thorp suggests, that class enrollments in the upper-class years (junior and senior) will be affected differently than enrollments in the courses in the lower-class years (freshman and sophomore). The number of courses offered in the freshman and sophomore years is normally smaller than the number offered in the junior and senior years. The larger number of courses in the upper-class years is justified in part as a means of meeting the specialized interests of upper-class students and the faculty members who teach at that level. Hence, the junior and senior courses tend to enroll fewer students per class. If curricular reform were to reduce the number of specialized courses enrolling few students, it is conceivable that the student-teacher ratio might be increased by the increased enrollments in the remaining courses.

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[1] Alvin C. Eurich, "The Commitment to Experiment and Innovate in College Teaching," The Educational Record, Vol. XLV, No. 1 (Winter, 1964), p. 52.

[2] Mayhew, op. cit., p. 57.

[3] Algo D. Henderson, Policies and Practices in Higher Education (New York: Harper and Brothers, 1960), p. 172.

With reference to upper-division class enrollments, it should be anticipated that to whatever extent the community colleges of Oregon (still new and developing) assume any significance as "feeders" of upper-division students into the four-year institutions of the state, the enrollments in the upper division will become better balanced with those of the lower division. The increased upper-division enrollments should result in an improved student-teacher ratio.

With reference to the large lecture class, a common phenomenon in Oregon's colleges and universities, it is probably true that once a class reaches a size in which discussion is no longer practicable, and where the lecture is the principal means of communication between the instructor and the students, it matters little whether the instructor is lecturing to 50 or to 150, except perhaps that a larger audience puts more strain upon him.

There is a place for the large lecture class, if the class is combined with smaller discussion sessions which provide the student the opportunity for interaction with an instructor and his peers. The foregoing arrangement serves several important purposes: It permits the gifted teacher to reach a maximum of students. It provides useful experience for the younger staff assistant or beginning instructor, who has the experience of leading the discussion sessions under the supervision of a senior staff member. It gives the student the stimulation of contact with the first-rate talent of the gifted teacher, and the opportunity for interaction with his peers and an able instructor in the discussion session.

It is sometimes asserted that the large lecture classes cannot be effectual since they assume that the learning process is a "pouring in" process, the students being the passive recipients of the knowledge transmitted to them by the lecturer. But in an effective lecture, the lecturer can do much more. He may, if he is good, clarify a difficult subject, fire a student's imagination, ignite the student's enthusiasm for the subject. We think that increasingly, particularly in the lower-division years, there is an important place for the controlled and supervised lecture-discussion course which is becoming increasingly common in Oregon's colleges and universities.

Increased Reliance Upon Independent Study by Students With Less Face-to-Face Contact With the Instructor in the Classroom. Another approach being explored in efforts to make maximum effective use of faculty resources lies in requiring students to assume, through independent study, a greater responsibility for their education. This approach rests upon the hypothesis that the striking of a new balance between the obligations of the teacher to teach and the student to learn, as a self-directing individual, will serve two important purposes simultaneously: It will provide a sounder educational experience for the student, while insuring greater efficiency in the use of the limited faculty resources. The educational justification for greater reliance upon independent study lies in the belief that:

1. Students learn only from their own mental effort and activity. There is no royal road to learning. No vicarious means by which one may learn for another. Each

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[1] Thorp, op. cit., p. 282.

stands in his own shoes - makes his own way intellectually. Good teaching stimulates mental activity. The best teaching stimulates the student to self-directed seeking, the greatest reward of which is the expanding capacity to make one's own way as an increasingly independent agent in the intellectual world. Independent study is a recognition of this truth.

2. Students learn a great deal without the presence of a teacher. One who has been a serious student will consider the foregoing a banal redundancy. Yet, Commager, writing of the American scene, observes that:

> We still refuse to learn what Oxford and Cambridge, for example, have taken to heart, that lectures often interfere with learning, that professors cannot be expected to do all the teaching, and that a major part of education is and should be performed by the students themselves.[1]

Conant, in his book, The Education of American Teachers, observes that "American colleges and universities of all types seem to be almost totally committed to the shibboleth of the 'course' involving a certain amount of time in a certain room."[2] He continues:

> But it is high time to challenge the assumption that education takes place only when the student is physically present in the classroom. Opportunities for examining out should be offered much more widely than they are, especially in the area of general education. The use of examinations in place of course work would create greater flexibility for the student in arranging his course of study, especially in the first two years, and would encourage the fruitful use of free time in the summer or during recess. It would also serve to encourage initiative, and free the student, to some degree, from the role of schoolboy. Finally, the option of meeting requirements by examination, rather than by course-taking, places the emphasis where it should be: on the subject itself rather than on the arbitrarily defined segment of it.[3]

We have, elsewhere in this report, made a specific recommendation concerning the development of examinations in our institutions precisely for the purpose of permitting students to "challenge" courses on the basis of knowledge, wherever gained.

3. The ultimate aim of education must be to make the student effectively independent of his teachers, giving him both the capacity and the incentive for continuing through a lifetime an independent search for knowledge as his needs will demand. What long has been an educational ideal now has become a social necessity. Post-high school institutions, however favored they may be, cannot hope to provide their students with a fund of knowledge sufficient to endure through a lifetime. What these institutions can and must do is to teach their students how to learn on their own, and give them the incentive for learning. For in a future in which change is likely to be the only constant, the individual who lacks either the capacity or the incentive for renewing continuously his educational capital will suffer the inestimable losses of an early and inexorable obsolescence.

In the idiom of John Gardner: "All too often we are giving young people cut flowers when we should be teaching them to grow their own plants. We are stuffing their heads with the products of earlier innovation rather than teaching them

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[1] Henry Steele Commager, "The Problem Isn't Bricks - It's Brains," The New York Times Magazine, January 29, 1956, p. 67.

[2] James B. Conant, The Education of American Teachers (New York, N.Y.: McGraw-Hill Company, 1963), p. 78.

[3] Ibid., p. 79.

> to innovate. We think of the mind as a storehouse to be filled rather than as an instrument to be used."[1]

Those who see an economic warrant for greater reliance upon independent study by students assume that if, indeed, it is educationally sound to give the student greater responsibility for self-direction through an independent study program, then faculty members will need to spend a fewer number of face-to-face contact hours with students, and can, therefore, serve more students - and perhaps more effectively.

Independent study is found in two principal forms in post-high school education at present. The first is the independent study program in which the student is encouraged to study on his own under the supervision of faculty, after the manner of some of the honors programs. This type program encourages the student to make the maximum use of his time while in school and encourages him in the development of his capacity to work independently.

The second pattern of independent study is the work-study pattern, which provides the student alternate quarters or semesters on- and off-campus. During off-campus periods the student studies independently, travels, or works in some meaningful employment. The institution can, by this means, serve more students, since while one group of students is off-campus for a quarter or semester, a second group of students can be on-campus, the two groups then alternating periods on- and off-campus.

Without deprecating the usefulness of the honors-type independent study programs, we would observe that if the independent study is to be meaningfully integrated with classwork on campus, faculty members will need to devote considerable time and attention to the student's plans for independent study, assisting him, counseling with him, and evaluating his progress in his independent study. Henderson asserts that under this type program, "Many if not most students would require more rather than less faculty time."[2]

Henderson asserts that there would be some faculty saving in the work-study type program since "the supervision of the off-campus experience may require a ratio of only one professional to 100 or more students."[3]

We believe that there should be an increasing emphasis upon independent study activities in higher education. The honors-type program is widely in use both nationally and in Oregon institutions. It represents, in our judgment, an educationally commendable development with, under some circumstances, a saving in faculty time.

The Antioch-type off-campus independent study program, long in use in selected institutions in the United States, is being given new attractiveness by the need for making the most efficient use of faculty and physical plant in a period of present and impending shortages in faculty and physical plant resources. There are some who feel that this development will prove to be one of the major educational advances of this period. We must consider its potentialities for Oregon institutions.

The Place of the New Technologies in the Teaching-Learning Equation. Each new technology or technological invention raises anew the hope that here is an instrument that promises both greater instructional efficiency and greater economy. In the 1920's and 1930's came radio and audio-visual materials (i.e., 16 mm. portable projector, films, tapes, slides); in the 1950's, educational television, programed instruction, and the teaching machine. And the end is not in sight. Invention follows invention as major industrial companies apply brains and money to the problems of education, which is considered to be one of the most important of the new growth industries.

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[1] John W. Gardner, Annual Report, Carnegie Corporation of New York 1962 (New York City: Carnegie Corporation of New York, 1962), p. 11.

[2] Henderson, op. cit., p. 173.

[3] Ibid., p. 173.

But what are the implications of these technological instruments for efficiency and economy in post-high school education?

If we ascribe to students a larger responsibility for working independently in the gathering of facts and other relevant information in their studies preparatory to the evaluation of the meaning and the significance of this content with instructors and other students, then educational television, teaching machines, language laboratories, programed learning, and the like, all become valuable instruments in the student's independent study program. An increasing number of colleges and universities are using these materials in precisely this fashion. These technological developments can be important and useful allies in the educational process.

Some have objected to the depersonalized character of education sought through the use of these technological instruments. But viewed in another light, these instruments, paradoxically, may be seen to be the means of humanizing the educational process. For such mechanized or automated instruments free the teacher to concentrate on the aspects of education that have the most relevance for lasting good, namely the encouragement in students of the development of analytical skills, attitudes, habits of mind, and understandings that will give the student the means and the incentive for continuing independently his education throughout a lifetime.

Can more mileage be gotten out of the college professor if these new technologies are employed? Oregon has had rather extensive experimental experience with educational television, and the conclusions deriving from that experience are discussed in Chapter XIII. Basic research in automated instruction is being carried on at the teaching research center of the State System of Higher Education at Monmouth. Some effective work is being done by the center working with several units of the state system in the development of automated courses. Some of these courses (in the Dental School, for example) are permitting students to acquire by independent study the scientific, objective information once dispensed by a member of the faculty. The adaptation of these automated techniques to a variety of courses in several of the curricular areas appears promising. The teaching research center is pursuing this application in other areas of the curriculum.

We look to the development of entirely compatible relationships between the automated approaches to learning and the teachers in post-high school institutions of Oregon. The principal function of the automated devices is to dispense information. The teacher's role is not primarily that of an information dispenser, but rather that of an interpreter of information, a planner of learning experiences for students, an advisor, a skillful mentor who assists the student to develop those analytical skills and abilities to seek, to find, and to interpret meaningfully information in the area for which the teacher has responsibility. We believe that the effective development of the automated approaches to learning can only serve the interests of teaching as we see these interests.

Reduction in Course Proliferation. The general subject of the undergraduate curriculum is discussed in Chapter V. We are here concerned with those aspects of curricular reform that have as their aim the reduction in the amount of course proliferation. This matter is discussed here rather than in Chapter V because course proliferation, to the extent it exists, has a bearing upon class size, student-teacher ratios, and related matters.

A common plaint, both from within and without the educational establishment, has been, and is, that nationally, there is a tendency to proliferate course offerings. No point would be served here in multiplying the evidence that course proliferation is a source of frequent criticism. Three citations are indicative of the many that might be cited.

> The key to the whole problem lies in the fact that it is comparatively easy to add items to the program of a university and almost impossible

> to remove them once they are established. In the threadbare cliche of the faculty clubs, "No educational experiment ever fails."[1]

> Virtually every student of college curricula for the past several decades has inveighed against the proliferation of courses.[2]

> The greatest extravagance in almost every type of institution from the smallest to the largest lies in the curriculum. . . . Institutions have permitted their course offerings to grow more and more numerous, to proliferate beyond real needs. Too many of our institutions have been victimized by the cult of coverage.[3]

In *Memo to a College Trustee*,[4] Ruml and Morrison tied course proliferation to the most serious general problem facing the liberal arts colleges - the "prevailing low level of academic salaries." They suggested that raising of salaries to an adequate level could be accomplished with far less money than might be surmised if the colleges would become more efficient in their operation, as measured by: (1) the ratio of students to faculty, (2) average number of faculty hours spent in instruction, and (3) the relation of faculty compensation to tuition income. The overall student-teacher ratio set as a goal for liberal arts colleges of 800 or more enrollment by Ruml and Morrison was 20 to 1.

Subsequently, McGrath made a study of the curricular offerings of a number of liberal arts colleges as they related to certain factors (*Memo to a College Faculty Member*).[5] He found that the range of credit hours offered by colleges in various subject matter areas was very great. He found that there was no relationship between the number of courses and the size of the student body; that faculty yield (student credit hours produced) is related to average class size, but that faculty yield and teaching load are negatively related. That is, in the schools having small average classes the faculty has large average teaching loads. He found that when he compared colleges with essentially the same average faculty salary, some operate more economically than do others by restricting the number of small classes and increasing the number of larger classes.

McGrath concluded that if a liberal arts college wished to improve its financial position it could do so by raising its enrollment, by keeping its advanced courses to a number consistent with the requirements for a major, and by developing some form of general education program with quite large classes.

Referring to the liberal arts college, Mayhew, following a review of a number of studies relating to course proliferation, observed:

> The burden of these various reports has been that faculty salaries are intimately bound to the number of courses a liberal arts college offers. If the number of courses can be reduced with an attendant increase in the average class size, it is possible, over a period of years, to reduce the number of faculty members needed and to raise faculty salaries. Or if enrollment is increasing, it is similarly possible to retain a

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[1] Caplow and McGee, *op. cit.*, p. 237.

[2] Mayhew, *op. cit.*, p. 53.

[3] The Commission on Financing of Higher Education, *Nature and Needs of Higher Education* (New York City: Columbia University Press, 1952), p. 106.

[4] Beardsley Ruml and Donald H. Morrison, *Memo to a College Trustee: A Report on Financial and Structural Problems of the Liberal College* (New York City: McGraw-Hill Book Co., Inc., 1959).

[5] Earl J. McGrath, *Memo to A College Faculty Member* (New York: Bureau of Publications, Teachers College, Columbia University, 1961).

> faculty at its present size and, as enrollments increase, to increase salaries rather markedly. Although some faculty members have accepted the principles of these analyses, they have typically not willingly put them into practice. Indeed, when the matter of curriculum reduction is mentioned, a variety of objections is raised why the number of courses should not be decreased.[1]

We acknowledge the evils of course proliferation. Undue proliferation is unsound economically, and, in extreme form, it disposes toward unsound education. We recognize it as an important factor in some situations in lowering of the student-teacher ratio to a point that impoverishes both the faculty and the institution. It does not follow, however, that proliferation of courses is the only, or always the primary, cause of low student-teacher ratios in institutions. There are other factors that may have an impact in this direction.

We are not so credulous as to believe that the Oregon post-high school institutions have escaped entirely an affliction so common. Yet such proliferation as there may be appears not to have had the effect of reducing the student-teacher ratios in our public institutions below a reasonable figure.

The reader will recall that Ruml and Morrison sought to establish for the liberal arts colleges, as a goal, an overall student-teacher ratio of 20 to 1, which, together with the staff load suggested by Ruml and Morrison, would have permitted the colleges to raise salaries substantially. It is interesting to observe that the foregoing goal is exceeded by the three liberal arts colleges of the state system (EOC, OCE, SOC) which are estimated to have in 1966-67 student-teacher ratios of 20.386 to 1. Portland State College, which is just beginning to move into graduate work to any degree, is estimated to have a ratio of 18.598 to 1. The two universities (UO and OSU), having very substantial graduate programs, are estimated to have student-teacher ratios just in excess of 16 to 1.

In the five Oregon community colleges offering college transfer programs in 1964-65, the student-teacher ratio was, in those programs, in ascending order, 15.5 to 1, 17.9 to 1, 19.6 to 1, 20.9 to 1, and 22.9 to 1.

In the independent colleges and universities of Oregon, the reported student-teacher ratios range from 8.2 to 1 in one of the most prestigious institutions (middle-size), to 17.2 to 1 in a slightly larger institution (one of the four largest independent institutions in Oregon in terms of student FTE in 1964-65). In the independent institutions having fewer than 40 FTE faculty in 1964-65, the student-teacher ratios in 1964-65, in ascending order by size of faculty, were 15.7 to 1, 10.3 to 1, 11.9 to 1, 9.6 to 1, 11.4 to 1. In those independent institutions having from 40 to 75 FTE faculty, the student-teacher ratios were: 14.3 to 1, 17.2 to 1, 14.6 to 1. Among the institutions with a faculty FTE more than 75, the student-teacher ratios were: 8.2 to 1, 15.1 to 1, and 15.0 to 1.

We recognize that continuing effort must be made through appropriate faculty and administrative channels to identify and eliminate from our curricula any undesirable proliferation of courses, and to block unwise proliferation in the future. But we also recognize that an important element in the psychic income of some staff members is the privilege of offering work in one's specialty. Within reason, and used judiciously by curricular authorities sensitive to the dangers of proliferation, we believe that such opportunities may usefully be provided.

The Professor and Undergraduate Teaching

The criticism most often made of the colleges and universities in recent years is that teaching, particularly undergraduate teaching, is being neglected - sacrificed to research and service. Such a blanket indictment seems to gain force and invite credence by frequent repetition.

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[1] Mayhew, *op. cit.*, p. 56.

Yet, from our observation of the post-high school institutions in Oregon, it seems clearly evident that the flight from teaching, if such there has been, has not occurred in the smaller colleges. In these, the teachers are where they've always been - in the classroom. Busier, perhaps, with more students to teach than formerly. Perhaps more harried. But unmistakably there in the classroom. The smaller colleges, as we observe them, continue to exemplify in their operation the student-centered, teaching-oriented characteristics that have been the pride of the smaller colleges through the years. This is not to say that the smaller colleges are not in a measure involved in research, particularly that federally sponsored. They are, in some instances. But for the most part, teaching continues their paramount interest and activity.

In the larger universities, the emphasis has traditionally been somewhat different than in the smaller colleges. Two-year and four-year liberal arts colleges have been, and remain today, chiefly concerned with teaching. The large universities, with thriving graduate schools, are concerned with teaching, research, and service. In recent years, a number of forces have been at play that have had an impact upon the extent to which professors in our universities are engaged in teaching of undergraduate courses, particularly the survey-type, lower-division courses in which freshmen and sophomore students get their first taste of college life.

1. Professors in our universities, particularly those having responsibilities in the graduate schools, on the average are teaching fewer hours than they did fifteen or twenty years ago. This development is an aspect of the professor's sharing in the generally increasing abundance of our society - something akin to the 40-hour week and similar trends. As an aside, it is interesting to reflect, as Gerard Piel, publisher of the Scientific American has pointed out, that if we had continued with the 60-hour week we would now have 27,000,000 unemployed.

   The lightened teaching load does not, for most professors, mean more leisure. What it means is that the professor has more time now to prepare better for his classes, to teach better, to research more adequately, and to write on the subject of his teaching and research, if he is so inclined.

   As a recent editorial in the Journal of Higher Education suggests, the state universities have, in this trend toward a reduced teaching load, followed the lead of the well-endowed independent universities. The independent universities moved to the reduced teaching loads because of their conviction that free time was essential to effective teaching. The state universities are seeking to follow their lead, and for the same reasons.

   On the average, then, many professors in our universities are spending less time in the classroom than they did fifteen to twenty years ago, but for entirely justifiable reasons, in our view.

2. The universities have far more graduate students than they formerly did and for many professors in the universities, the increased load of graduate students necessarily reduces the time they can spend in undergraduate teaching. The number of graduate students in our universities has multiplied several times over in recent years. Our kind of society is heavily dependent upon the competently trained graduates of our master's and doctoral programs. Education, government, business, industry, and every segment of our life draws upon this supply turned out by our universities. We earlier noted in this report the problems arising from an inadequate supply of qualified college teachers in some fields. As our demands for trained people at the graduate level have increased enormously in recent years, we have looked to our universities to produce them. Obedient to this demand, our universities have expanded, and expanded again, their graduate

schools. And despite their efforts, they are still the subjects of criticism that they are not turning out a sufficient number of qualified PhD's in many fields to meet the demands.

It must be obvious that if professors are required by the demands of society to spend more time teaching upper-division and graduate courses, they inevitably will have less time for undergraduate teaching, particularly the survey-type lower-division courses.

3. There has been an increasing demand upon the time of university professors, particularly in the sciences and the social sciences, from government and business and industry. Research has become a national passion, as it has come to be seen as the source of our national well-being and the base of our economic progress. And the brainpower represented in our universities has come to be a major resource to all aspects of our economic life - business, industry, agriculture, the professions. Participation in these research and service activities in the practical world has its advantages to the university professor, not the least of which is that it permits him to maintain a continuing and close touch with the realities of the world to which his theories of the classroom relate.

The upshot of these developments has been that in our universities we are using, in a teaching capacity in some areas of the undergraduate curriculum, some young, promising, often very gifted, young men and women, who, as graduate students, are in preparation to take their places on college and university faculties across the land. It is these graduate students, often referred to as "graduate assistants," who are filling in the spots that were once filled by full-time faculty members. It is their use which has been the cause of much misunderstanding as to the status of the teaching in the lower-division college years. Actually, these graduate assistants are mature people, usually well along toward the completion of their doctoral work. Many of them are former professors or professors-on-leave from other institutions, with considerable teaching experience in other colleges or universities, who are serving as "graduate assistants" during their pursuit of the doctorate on the university campus. Some are gifted teachers, and all are judged to be competent by the department for which they teach, or they would not be assigned to teaching. They are sometimes better teachers than the senior professors whom they replace.

Moreover, these graduate assistants, as doctoral students, are in many instances in preparation to become college and university professors and will do so upon receipt of their degrees. Teaching as a graduate assistant represents a very significant part of their preparation, for it is here that they have the opportunity of practicing the art of teaching, hopefully under the oversight of proven, senior professors. As the source of future college and university professors, the university would be ill-disposed to forego, for these teachers-in-training, this important apprenticeship in the art they will practice upon being awarded their degrees. Such apprenticeship activities suppose, however, that the university will maintain a close and continuous oversight of the apprentice-in-training. Without such oversight, the interests of neither the undergraduate student nor the teacher-in-training can be effectively served.

We believe that the need for concern with the improvement of teaching in our institutions is a continuing one. But we believe that undergraduate teaching has been maligned beyond justification. The universities are dealing with difficult and serious tasks which society has placed upon them. They have endeavored to adjust their operations to meet these changing demands. They ask only that society recognize the magnitude of the tasks and not render more difficult the lot of the colleges and universities by blanket indictments such as one discussed above.

We do believe, however, that the institutions must concern themselves with more careful supervision of their graduate assistants who are employed in any aspect of teaching in the institution. Parenthetically, we would note that graduate assistants are used at all levels, and not exclusively at the undergraduate level. The supervision of graduate assistants in their teaching, which we here urge, will improve the quality of their teaching service to the institution and will, at the same time, permit the institution to assist its graduate students interested in a career in college teaching to hone their abilities as teachers as a part of their preparation for full-time employment following the completion of their degree programs. We believe that the following will assist in the upgrading of the quality of the teaching service rendered by graduate teaching assistants.

1. Efforts should be made to establish more adequate inducements, both professional and financial, for teaching assistants, which will make teaching assistantships more competitive with the graduate research fellowships for the ablest graduate students. There is some evidence in the sciences that the abler graduate students tend to be drawn toward fellowships or research assistantships more than toward teaching assistantships. This seems to be so because of two factors: (1) Fellowships or graduate research assistantships tend to be more rewarding financially because they often are tax-free, they tend to pay more, and, in the case of research assistantships, they offer 12-month employment more frequently than is true of teaching assistantships, (2) The student with a fellowship or a research assistantship is able to push ahead more rapidly toward the fulfillment of degree requirements, for, in the case of many fellowships, he is required to return no service to the institution and, in the case of the research assistantship, the research work undertaken is often the avenue by which he meets the doctoral dissertation requirements. The teaching assistant, on the other hand, is being paid for services rendered to the institution which, while useful to the student as teaching experience, often do not move him toward completion of the degree requirements.

   Harold Orlans, of the Brookings Institution, in a study of the effects of federal programs in higher education in 36 colleges and universities, found that "chairmen of major science departments were widely ageed that, at present, it is the poorer and not the best graduate students who are likely to be teaching assistants."[1] However, in the case of the humanities, the opposite appeared from Orlans' study to be true. In the humanities, teaching assistantships were awarded to the best students, for it was expected that they would become teachers, not researchers. Orlans suggested that teaching assistantships would be more competitive with fellowships if there were available summer research stipends for teaching assistants, and if fellowship holders were required to teach part time.

   A recent study at the University of Oregon revealed that, in the fall of 1965, of the more than 2,800 students registered for graduate credit, 486 held teaching assistantships, 172 were research assistants, and more than 155 received fellowships. A study involving the opinions of seven department heads, in departments having fellowships, research assistantships, and teaching assistantships to award, indicated that it was the opinion of these department heads that graduate students, given a choice of the three types of assistance, would rank them in the foregoing order as to student preference. These department heads further reported that they tended to offer any available fellowships to their most able students.

2. Systematic and orderly programs for providing continuous supervision of teaching assistants by regular faculty members should be established. This is not to suggest that there is no supervision of student assistants at present. There is, in many instances. But it is spotty and lacks the consistency that a soundly organized institutional program, department by department and school by school, should manifest. The character of the supervision presently offered varies from department to department, school to school, and from professor to professor within the departments and schools. We believe that a soundly structured program of supervision would do more than almost anything else to improve the whole

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[1] Orlans, op. cit., p. 71.

system of teaching assistance, and would improve the level of instruction in those areas in which teaching assistants are being employed. We are confident that the teaching assistants themselves would welcome such attention from regular staff members.

3. We believe that institutions, having as one of their objectives the preparation of college and university teachers, should provide, in their preparation programs for all their graduate students interested in preparing for teaching careers, opportunity to secure supervised teaching experience as an important aspect of the students' total preparation leading to the terminal degree (usually the doctoral degree). As the PhD candidate is given faculty oversight in gaining research experience to prepare him for his role as a researcher, so, we believe, should prospective college teachers receive the benefits of supervised teaching experience, as a part of their preparation programs, to prepare them for effective roles as teachers. As it stands, there is no emphasis upon the acquisition of teaching experience comparable to the emphasis upon research which accompanies the development of an acceptable dissertation. In the latter case, students are given the attention of a faculty dissertation advisor and the help of a committee of outstanding faculty members to advise with them concerning the development of an acceptable research dissertation. With rare exception, there is no comparable attention paid to the student's development of teaching skills. We believe there should be.

   Moreover, we believe that an effective program of apprenticeship in teaching should include provision for evaluation of the apprentice teacher and the maintenance of records of his achievements as a teaching apprentice. Thus, the institution will be in a position to know how most effectively to employ its graduate assistants in its own teaching programs, based upon the institution's observation of the student's capacities, and the institution can more effectively advise prospective employers of their graduate students concerning the students' capacities, in the teaching field.

CHAPTER XIII

Selected Educational Resources

The "selected" educational resources to which this chapter is devoted are: libraries, computers, and educational television.

Libraries

Libraries are at the heart of the institutions of higher learning. Their ancient role as repositories of knowledge is, in some respects, unchanged. But the changes in the processes of education and of research, together with the revolution which is occurring in the world of knowledge, face today's libraries with challenges of which their ancient counterparts could not have dreamed.

. There is the matter of the rapidly expanding number and variety of users to be served.

The enrollment statistics for Oregon, presented in Chapter III, suggest one aspect of the magnitude of enrollment increases that library planners must have in mind in planning for the future library needs. And it should be remembered that the gross enrollment figures conceal the fact that an increasing number of graduate students are a part of the total figures; that graduate student demands upon the library resources are necessarily greater than those of the undergraduate students.

Moreover, to an increasing extent, our libraries are serving not alone regularly enrolled students, but the needs of business, industry, and government as well. This is particularly true of the libraries designed to serve research needs in the graduate program.

. There is the impact of changes in educational procedures and objectives - of which the potential teacher shortage, the greater emphasis upon independent study by students, and the greater emphasis upon academic mastery are only illustrative. But these changes, in the aggregate, all lead to increasing demands upon the libraries.

. There is the tremendous increase in volume of information being published each year.

Access to the accumulated and accumulating knowledge and wisdom of mankind is important to students at all levels - particularly at the graduate level - and to all types of research. But knowledge is so abundant that even the finest library contains only a fraction of the world's published knowledge. The struggle to keep within hailing distance of the frontiers of even a few fields is a difficult one for libraries. It is estimated that currently published scientific journals alone may total 100,000 throughout the world. Some 33,000 newspapers and 70,000 journals are published on a regular basis. In the field of medicine, it is estimated that some 200,000 journal articles and 10,000 monographs are published annually. And the promise is that knowledge will increase at an accelerating rate in the years ahead.

As the quantity of recorded knowledge increases, so it is divided into an increasing number of areas of specialization. The organization of this flood of knowledge so as to give coherence to it, and make it readily retrievable in an organized and useful form, is a continuing problem with the libraries.

- There are the increasingly varied forms that recorded knowledge takes.

  The printed page, once the only form of recorded knowledge, is no longer so. Now, such other forms as films, microfilms, punch cards, magnetic tapes, and computers offer useful alternative forms for storing knowledge and facilitating its ready retrieval. It is perhaps only a slight exaggeration to say that the form in which recorded materials will appear in the future will be almost as diverse as the subjects they treat. It is this diversity of alternatives for storage and retrieval of data and information which faces libraries with one of their most puzzling conundrums - how best to meld the printed page and these newer forms of storage in a combination which will at any given moment provide the libraries' clientele with the most efficient service at costs within available financial means.

The magnitude of the problems we face in providing effective library service through our institutions of higher education suggests the character of the effort it will take to solve these library problems effectively. A joint attack upon them must be made, utilizing the combined resources of our institutions of higher education and appropriate resources from business, industry, and government. Ours must be a coordinated approach to the problems of library service.

There already exist in Oregon some elements of library coordination within the State System of Higher Education, through the director of libraries (currently the director of libraries of the University of Oregon) who is appointed by the State Board of Higher Education. There exists within the state system some division of labor in library housekeeping, such, for example, as the joint ordering of books for selected state system institutions (OSU, SOC, OCE and OTI). The libraries of the University of Oregon and Oregon State University are in close and frequent contact, and faculty and students from the two universities have ready access to materials from either library. Duplicate card files are maintained in the two libraries to facilitate the ready use of materials, and there is a substantial interlibrary loan program between the two libraries. More recently, a statewide committee, having representation from the ten libraries of the Oregon State System of Higher Education, was appointed by the director of libraries to study the applications of computers and other automated devices to the library problems within the state system. In conjunction with the operations of this interinstitutional library committee, each individual library in the state system has organized its own internal campus committee, which is concentrating on one aspect of the computer application traffic. These subcommittees will report their findings to the interinstitutional committee.

The State System of Higher Education experience in cooperation among libraries provides a useful base upon which to build what Oregon now needs, an even wider coordination of library resources within the state. We are not prepared here to particularize the extent and the character of the coordination that is feasible and desirable for tying together the resources of the State System of Higher Education, the independent colleges and universities, the community colleges, and business and industry. The committee makes no pretense to having either the expertise or the other resources required to develop a plan of library coordination for Oregon. But the committee's conviction is that the most effective library development and use will occur only under a coordinated plan which provides for the cooperative development of library resources and the cooperative use of the total resources within the state on an equitable and rational basis. Such cooperative use will obviously lead to the development of a communications network within the state, including, at least within the Willamette Valley, such developments as overnight delivery service and other more modern means of communication such as teletype, facsimile transmission, microprint copying, and reading devices, and the like.

What is needed, and what the committee strongly recommends, is that there be created a committee by the Educational Coordinating Council to give study to the development of an overall plan of coordination for library development and use, involving the resources of the State Library, the libraries of the State System of Higher Education, the libraries of the independent colleges and universities, the community college libraries, and the library resources of business, industry, and government, which, in specialized areas, are very significant.

Development of Needed Computer Facilities

A coordinated, long-range plan for the development of needed computer facilities in Oregon, accessible to students and faculties throughout the state, is necessary to the long-range development of graduate study and the development of research of all kinds. One of the potential capabilities of such a plan would be: (1) to encourage the joint use of computer facilities, wherever feasible, and (2) to encourage institutions, as they develop or purchase computers, to have in mind the potentialities for the integrated use of computer units geographically separated, when compatible computer units are established at the several institutions.

There already exists a substantial measure of coordination in this field within the State System of Higher Education. For more than three years, there has been operative within the State System of Higher Education an interinstitutional committee on computer activities, one of whose principal purposes has been to develop a statement of computer needs for the state system institutions, as a useful guide for institutions of the state system. The statement of needs and objectives having been completed in 1966, the committee is now concentrating its resources in five specific areas, as follows:

1. A study of computer systems for instruction and research.
2. A study of registrars' functions and possible computer applications thereto.
3. A study of the application of computerized techniques to budgeting procedures, facilities planning, and institutional management generally.
4. A special accounting study to be conducted independently by a consulting firm, with a view to developing a plan for computer applications.
5. A limited study of libraries and the possible use of computers in their operation.

A significant function of the foregoing committee has been review of institutional plans for the development, leasing, or purchasing of computer hardware, in an effort to encourage the development, in the state system institutions, of computer resources that are not unnecessarily duplicative and that, to the maximum possible, are complementary and yet compatible, so that the computers situated on the several campuses may be used effectively together.

In the independent colleges and universities, interest is developing in the expansion of computer resources. Reed College, the University of Portland, Linfield, and Lewis and Clark College each has a computer at present, and there have been some preliminary discussions among some of the independent institutions concerning the feasibility of developing shared computer facilities. The Oregon Regional Primate Research Center has substantial computer facilities, which have been used by programing classes in the metropolitan area.

Thus, we see in Oregon evidences of interest in the colleges and universities in establishing or in expanding computer resources, and a willingness to collaborate and cooperate in planning for the establishment of computer systems that will complement each other and permit the ready transfer of data from one to another.

What we should like to see encouraged is: (1) a continuation of the state system coordination program, (2) the stimulation of cooperative planning and operation of computer facilities in the independent colleges and universities, and (3) the exchange of information concerning computer plans among the institutions of higher education in Oregon, public and independent. We believe that the impetus in the state system is already there. It seems to us that the Oregon Independent Colleges Association should endeavor to stimulate continuing cooperation among the independent institutions in planning in the computer area, and that representatives of both groups (state system and independent institutions) should periodically meet to exchange information concerning plans for the expansion and further use of computer resources. The instrumentality of the Educational Coordinating Council could best serve this function through the establishment of a subcommittee to provide for coordination of information concerning developments in the field of computer planning and usage in the colleges and universities of Oregon. Nor should the possibility of shared use of facilities with non-educational agencies be overlooked. But this we leave to the subcommittee.

Educational Television

There is ample evidence to indicate that television has the potential to become an effective educational medium in post-high school education. Its potential for post-high school education has two basic dimensions: (1) television can be used to significant advantage in both formal and auxiliary educational programs of two- and four-year institutions, and (2) it can become a major force in programs of continuing education as part of the responsibility of institutions of higher education to the general public. This chapter, therefore, focuses on educational television as it relates to these two aspects of post-high school education. The potential of television for improvement of public school education will be noted only in its relationship to programs of post-high school education.

Ultimately, higher education will maintain and improve its quality in direct proportion to its translation of the findings of experimentation and innovation into classroom and instructional procedures. Before innovation can be established as routine, however, it must withstand reasonable tests of time and efficiency. Television is a cultural innovation which has received great acceptance as a medium of information and entertainment but which has not received unqualified endorsement as an instructional medium; and so it should be,since its full effect on the quality of education over the long term has not yet been determined. Even the most enthusiastic supporters of educational television acknowledge that many unresolved questions still exist regarding the specific manner in which television should be used in higher education. These questions include consideration of the long-term effects of television teaching upon the quality of education, the most appropriate uses of television in the classroom, how to balance television instruction with procedures designed to retain personal contact in education, and many others.

Consideration of the potential of television as an educational innovation should be directed toward questions of instructional quality in contrast with an indiscriminate search for economy - although economies to be obtained will be welcome and sought. They should not, however, be sought at the expense of adequacy of instruction. To a large extent the use of television was initially espoused by both its advocates and opponents on the basis of extreme over-simplification. Advocates, on one hand, enthusiastically "oversold" television as an economic panacea and uncritically associated it with the concept of the "master teacher" as the basic means of improving education. A predominant image that has been attached to the use of television is one of instantaneous and great financial economy because of television's ability to reach large numbers of students with fewer teachers than conventional methods. Conversely, critics limited themselves to discrediting such claims and concepts without attempting careful, thorough analysis of television's educational capacity before suggesting that it be discarded.

The infancy of television education - which even at the present time has reached a maturity of only about 15 years - was largely characterized by such oversimplified and polemic attitudes, an atmosphere which has hindered its development. Educational television in the future can profit greatly by an understanding of the earlier period and by replacing superficial stereotypes and images with carefully collected data and evidence as a basis for the next major thrust in its future development.

Television is not magic. It will not decrease costs of instruction automatically. And yet, wisely used, it can attain many fundamental objectives in education. By this time most major colleges and universities, including institutions in Oregon, have amassed a significant amount of information about the role that television has to play in education. They have an understanding of its benefits - and a realization of its limitations. Recognizing that many questions are yet to be answered and many problems yet to be solved, higher education in Oregon is committed to the development of television as an educational medium. Its commitment is based upon knowledge that is now available from recent years of experimentation in Oregon and upon its resolve to answer the broad questions which still remain. Enough is now known about television education to justify utilization and extension of television programs in specifically designed areas and to know unequivocally that television will stay as a positive force in education. Enough is yet to be learned to demand that its utilization be subjected to continuous research and to definite developmental phases.

Historical Development of Educational Television in the Oregon State System of Higher Education

From the early 1950's the Oregon State System of Higher Education, which involves a highly centralized administration for the publicly supported colleges and universities in the state, has been concerned with the potential of television for educational purposes. Because of the degree of centralization in higher education, Oregon seemed to present a unique setting for some exploration into the interinstitutional use of television. Late in 1955, an interinstitutional committee was developed to study the possibilities of linking Oregon colleges and universities through televised instruction. Plans were formulated which resulted in the implementation of interinstitutional television teaching at the beginning of the 1957-58 academic year. A grant of $200,000 from The Fund for the Advancement of Education helped to initiate the experiment. Matching funds from the State System of Higher Education permitted the acquisition and installation of the necessary television equipment.

Although the original plan called for a closed-circuit[1] instructional television system, the project was finally carried out through the use of open-circuit television facilities. An educational television station, KOAC-TV, Channel 7, was constructed near Corvallis, Oregon, at a central location so that its broadcast range would reach three public institutions of higher education which planned to participate in the experiment. The participating state institutions during the first phase of the project were Oregon College of Education at Monmouth, Oregon State University at Corvallis, and the University of Oregon at Eugene. Willamette University, an independent institution in Salem, also accepted an invitation to participate, so the initial number of institutions which participated was four.

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[1] The terms "closed-circuit" and "open-circuit" are defined as follows:
Closed-circuit - a television system in which studio broadcasts can be received only on television sets that are connected directly to the studio or control facility by cable. Closed-circuit broadcasts are not received by the general public on home sets. For example, closed-circuit systems are used by industry in specific buildings to oversee plant operations, in banks to oversee activities within the bank building, by airlines in terminals to provide traffic information, etc. Most colleges and universities use closed-circuit systems for their television instruction. Oregon College of Education, Oregon State University, Portland State College, and the

Telecourse offerings were started in October of 1957 and from three to five televised courses have been offered for interinstitutional use each school year since that time. Willamette University withdrew from participation after the 1958-59 academic year, but Portland State College entered as a participant after the educational television station, KOAP-TV, Channel 10, in Portland, went on the air in 1961. The two educational television stations have microwave interconnections which have permitted simultaneous broadcast of the telecourses for use at institutions on any of four state campuses. The open-circuit broadcasts have also permitted reception of and enrollment in any of the course offerings by interested citizens within range of the educational television stations, which reach approximately 75% of the population of the state.

Continuing support for the project was supplied by a supplementary grant from the Ford Foundation which permitted some professors, who taught televised courses during the 1959-60, 1960-61, and 1961-62 school years, to devote their full efforts to television teaching. Since that time the interinstitutional courses by television have been completely supported by the participating colleges and universities and from centralized activities of the Oregon State System of Higher Education.

The Current Status of Educational Television In the State System of Higher Education

At the present time, for reasons noted below, the state system institutions are at a point of transition in the use of educational television. Essentially, they are emerging from dependence upon an interinstitutional arrangement for television instruction to the establishment of closed-circuit capacity on the respective campuses as the most efficient means for achieving the potential benefits of television for instruction.

Open-Circuit - Public Service Broadcast For the Continuing Education of Oregon's Citizens

A substantial broadcast service for the continuing education and enrichment of the citizenry of Oregon and for the public schools has been offered through open-circuit television by the Division of Continuing Education. A basic objective underlying the initial establishment of the state system's television facility and related programs by the State System of Higher Education was to capture the potential television seemed to have for extending the resources of the institutions of higher education to the public. The Division of Continuing Education, which operates under the philosophy of "the state is a campus," is uniquely equipped for this aspect of public

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University of Oregon have closed-circuit systems for their respective campuses. Closed-circuit television does not reach other campuses through direct broadcast.

Open-circuit - a broadcast system in which programs can be received by the general public on home sets. Major commercial channels are open-circuit; the state-owned educational channels, 7 and 10, are open-circuit. Open-circuit broadcasts can be received in college classrooms - as on any home set within range. An open-circuit system permits simultaneous broadcast from one institution to others within range.

An institution can have its own closed-circuit system for course instruction and also receive courses via open-circuit from other institutions. The Oregon Interinstitutional Teaching Project used the open-circuit system.

service by higher education. The following statement, submitted by the Division of Continuing Education, illustrates its future developmental emphases:

> With the lessening emphasis on interinstitutional use of television, the staff of Educational Media is able to look into other areas of educational need in the state where educational television might perform worthwhile and necessary functions. Possibilities for doing in-service training or continuing education programs for professions, organizations, and governmental agencies are under careful study. For example, the division has produced a series of 17 programs with the Oregon Medical Association designed to bring specialists' information to the general practitioner in the state; this effort will be continued. Plans are proceeding with the Oregon Bar Association for a continuing education series for Oregon lawyers. These are but two examples. There are needs in many other areas for which ETV can offer a real service, particularly in terms of providing non-credit instructional programs to the public. For example, a course in lip reading for the hard of hearing will be broadcast in 1966-67 in cooperation with the Portland Center for Hearing and Speech. Instruction in reading improvement, typing, shorthand, first aid, etc., are other examples of areas where the Division of Continuing Education can program successfully.
>
> The community college growth suggests a third area where ETV might serve. Currently under study is the possibility of broadcasting needed courses to the community colleges to help them provide top instruction in areas where they may have difficulty providing adequate staff.
>
> Programing for the public schools through the State Department of Education, with the objective of 20 hours of broadcast per week, will be continued, as will in-service programs for teachers of the public schools.
>
> Many problem areas in our society, identified by Congress in terms of federal legislation, lend themselves to treatment through ETV as part of the effort to solve them. The Division of Continuing Education, as a "non-institution," is seeking increasingly to achieve recognition as a medium of tremendous potential for helping to deal with these problems - urbanization, poverty, re-training, illiteracy, old age, technical services, mental health, etc. Agencies are being encouraged to develop programs and proposals to determine the role ETV might play and the funds necessary to carry out the role.
>
> Besides these relatively new directions of programing, there exists the continuing responsibility to broadcast fine cultural, public affairs, and informational programs (that are not available through commercial broadcast stations), as well as providing worthwhile and exciting programs for children.
>
> The rich resource of the faculties of our institutions of higher education in Oregon are available in providing these services. The Division of Continuing Education will continue to search for ways to "exploit" this resource satisfactorily in attempting to achieve common goals of all units of higher education.[1]

Open-Circuit - Interinstitutional

Oregon's primary experience with educational television from 1957 to 1961 was organized on an interinstitutional basis through open-circuit. During 1965-66, eight years after the inception of these interinstitutional programs, only three courses were offered through interinstitutional television. Interinstitutional course enrollments have decreased steadily with a corollary increase in single-institutional use. The faculties of the state system institutions of higher education have expressed a clear preference for reduced emphasis on open-circuit interinstitutional television teaching and greater emphasis upon closed-circuit teaching on a single campus. The basis for this conclusion is described completely in Interinstitutional Teaching by Television, Final Report, 1957-1964, by Glenn Starlin and John E. Lallas. The report states as follows:

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[1] Statement by Mr. William McGrath, television program manager, KOAC-TV.

> Simultaneous distribution of courses by television to several campuses in Oregon has not yet seemed to display sufficient clear advantage in instruction to capture the imagination and support of enough faculty members at the different participating institutions to stimulate adoption of the program as a regularly accepted part of academic instruction in the Oregon State System of Higher Education. . .
>
> Overall, it has been a most worthwhile adventure in educational innovation, both in the utilization of television and as an exercise in interinstitutional cooperation and administration. Although there have been continual administrative problems and less than enthusiastic acclaim in acceptance of interinstitutionally inspired televised courses, the experiment has proved beyond any doubt that television has the potential to become an effective tool in education . . . It will not transform mediocre teaching, nor will it destroy superior instruction if the necessary adaptation is made to television's limitations and advantages. As an innovation in instruction, it disrupts some established patterns in the teaching and learning process, and it can be expected to meet with some resistance. In the final analysis and over a period of time, however, as each of the Oregon institutions becomes more familiar with the use of television on its own campus, it may be that a future demand will develop for further exploration of interinstitutional television as a means of strengthening the state's pool of instructional resources.

Closed-Circuit Television

The following data were extracted directly from statements of future developmental plans of Oregon College of Education at Monmouth, Oregon State University, Portland State College, and the University of Oregon. These data provide much of the raw material on which final recommendations of this report are based; they illustrate the essence of television in post-high school education.

Oregon College of Education.[1] The experience of Oregon College of Education with interinstitutional television (open-circuit) has been reasonably satisfactory for both students and faculty. The reactions of students were mixed to some extent, but favorable overall, since certain courses were available that might not have been otherwise, and a large number of students were served at a relatively low cost to the college budget. During the past few years, OCE has been receiving courses in philosophy, general psychology, and personal hygiene. Enrollments in the three courses averaged close to 300 students during fall term each year; they fell off considerably during the winter and spring when the second and third terms of general psychology were not required in the programs of the students.

When Oregon College of Education secured closed-circuit television for campus use, a marked increase in interest and effectiveness was noted. Certain courses in the art department have been televised regularly during the past year and have been well accepted by the students and the faculty. By use of closed-circuit television and video tape, it has been possible to schedule courses at the convenience of the students throughout the day, and other departments are televising portions of their work. It is the anticipation of the faculty at OCE that, with further experience, more interest and participation will occur.

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[1] Prepared by Dr. Walter Snyder, dean of instruction.

Another particularly significant and effective use of closed-circuit television on the OCE campus has developed in connection with education and psychology courses where observation of classroom teaching is an important part. Through television, children can be observed in the campus school, and faculty can develop extremely valuable discussions of important incidents and experiences in the classroom setting. Many of these are video taped, particularly if they have significance for understanding children or objectifying steps in the learning or teaching process. These video tapes are retained and used in special sequences. Some interest has been expressed on other campuses in the use of this material, particularly where the universities or colleges involved do not have access to campus school facilities. This has resulted in the establishment of video tape exchange among various campuses.

Almost without exception, the departments of the college are increasingly interested in and aware of the potential for use of closed-circuit television when accompanied by video tape equipment. The physical education department uses it regularly for immediate playback and self-observation by students in action situations. A similar use is made in the music department where students observe themselves conducting a musical group and participate in self-critiques, which are highly valuable learning experiences. In certain phases of the humanities departments, such as drama and speech, the same playback, self-observation technique is used.

The department of education is a heavy user of closed-circuit television and considers the medium to be an extremely important adjunct of its instructional programs. The demands of education, together with those of other departments listed above, have resulted in full use of the present facility, and even now there is a need for some expansion.

Oregon State University.[1] In less than one decade instructional television has grown into a significant factor in the curricular planning of Oregon State University. The first closed-circuit televised course was presented in the spring of 1957. The first kinescoped college course was offered in 1961. The first video-taped college course was introduced in 1962. The major objective of instructional television is the improvement of instruction. There are many factors involved in the judicious use of television for attaining this objective, as indicated in this report. Continuing research assures the student of no dilution of instruction as measured by standard test scores in those courses or portions of courses selected at OSU for televised presentation.

Year		OSU Annual Enrollments in TV Courses
1957	(Spring, Ch 203, closed-circuit)	100
1957-58	Using KOAC-TV	554
1958-59	Using KOAC-TV	787
1959-60	Using KOAC-TV	1,265
1960-61	Using KOAC-TV	2,440
1961-62	Using KOAC-TV	4,319
1962-63	Using KOAC-TV	4,095
1963-64	Using KOAC-TV	4,256
1964-65	Limited closed-circuit plus KOAC-TV	5,186
1965-66	Limited closed-circuit plus KOAC-TV	6,479
1966-67	Completed closed-circuit facilities	7,000+ estimate

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[1] Extracts from a statement prepared by Dr. Harold Livingston, director of classroom television.

TV Courses - 1965-66	No. Times Offered per Week	Enrollment
General Hygiene (PE 160)	4	1,409
General Biology (GS 101)	6	883
General Biology (GS 102)	6	803
General Biology (GS 103)	6	572
General Psychology (Psy 201)	8	1,269
General Psychology (Psy 202)	6	1,115
General Philosophy (Phl 201)	1	116
Elementary Ethics (Phl 202)	1	135
Elementary Logic (Phl 203)	1	177

(Philosophy sequence will be replaced by experimental math sequence for 1966-67.)

With the development of limited closed-circuit facilities, a second major program involving selective televised services was developed in the school year of 1964-65 and expanded in the present school year (1965-66). The program is illustrated by the following examples:

Fall 1964 to Summer 1966	
OSU staff self-evaluation tapes	210 staff members
Library orientation video tape	shown to 2,100 students
Special education methods class video tapes	shown to 1,900 students
Teacher-trainee self-evaluation tapes	68 students planning to teach
Special tapes made for schools other than education	shown to 1,100 students
Special workshops using our CTV services	12 workshop programs

All students of general biology now take two televised lecture-demonstrations per week plus recitation and laboratory. The success of this course was a strong factor in bringing a large grant to the department recently for the training of biology teachers.

Research regarding the interinstitutional psychology course has resulted in the OSU department of psychology developing its own series for the coming year (1966-67), with each lecture pre-tested by student groups. All students will take this psychology course for two lectures per week plus one recitation period.

There are valuable by-products of the program difficult to measure in dollars. By using television and clearing staff time for research, the biology staff has been able to develop new areas of biology which have brought thousands of dollars in grants to the institution. Video tape made it possible for Dr. Carl Anderson, assisted by on-campus proctors, to teach 300 students while on leave to do research on health problems in Norway and Sweden. Television enabled the psychology staff to cut their formerly very heavy teaching load sufficiently to develop an outstanding funded summer institute. A true cost analysis, however, cannot be made until the closed-circuit television facility is completed and properly equipped in Kidder hall. It is probable that the present program of taped courses is resulting in some savings to the institution over the traditional courses, but this cannot be readily determined at the present time due to current production arrangements with KOAC-TV.

Next year Oregon State will be linked for closed-circuit television presentation to all dormitories and the Corvallis cable system to study financial factors involved in permitting students to view lecture portions of taped courses off campus.

Portland State College.[1] It is anticipated that the use of closed-circuit television can play a significant role in future years at Portland State College. Closed-circuit television can also play a valuable role as the disseminating medium for all types of general informational and cultural material other than the purely formal material of instruction. The educational activities of the student body, the requirements of the administration, and the annual necessity for orientation of new students can be facilitated by the use of closed-circuit television, provided enough viewing space is available. During 1964-65 PSC used closed-circuit television to offer:

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[1] Extracts from a statement prepared by Mr. Kenneth Butler, audio-visual librarian.

Courses	No. Times per Week	No. Students Served (per Term)
Health Education 150	3	771
Geology 201,202,203	6	240
World Literature 107, 108, 109	8	273
Psychology 201, 202, 203	6	1,089
	Total Per Term	2,373
	Total Per Year	7,119

Course Segments	No. Times per Week	No. Students Served (per Term)
Library Orientation	1	2,000
Registration Procedures	1	2,000
Teaching Demonstrations (Elementary)	Irregular	250
Student Teaching Critiques (Secondary)	Irregular	35

Additional programs are expected to be developed for 1966-67 for the education department and the speech department. Philosophy 201 and 203 will be offered. Other requests may be made. From 1967 on there have been no commitments made, although discussion is proceeding in several departments regarding the use of CCTV.

At the present time the facilities available are used to capacity. If additional facilities, equipment, and staff become available, it is expected that the use of television as an instructional and informational tool will play an increasingly important role in the college's activities.

University of Oregon.[1] In years to come, the increased enrollment at the University of Oregon may well necessitate the development of a number of lower-division courses for television presentation for at least parts of courses. It is anticipated that research will aid in the articulation of effective criteria for the development of these courses and for the evaluation of outstanding television teachers. The instruction of large groups by television is presently being carried on at the university, where 13 sections of economics meet with teaching assistants to discuss the televised portion of each meeting, which consists of a 30-minute lecture by an experienced television teacher.

Private Line-3 (PL-3), a non-formal classroom educational programing concept directed toward students in dormitories and at home, is firmly committed to the concept of providing an electronic roof under which university students and citizens of the community can gather to share many of the cultural and learning experiences of university life. The "academic" perspective that the university can offer may provide insight to the community in analyzing its own problems. By the same token the community offers many possibilities for academe to view life "as it really is," while contributing to the cultural and general life of those not involved with the university. As examples of programing which serves the community, PL-3 has recently presented programs on American government, rural delinquency, and farm labor that clearly address themselves to problems not directly connected to the university curriculum, yet vitally concerning the university and all it stands for. Future programs developed in cooperation with the League of Women Voters and other community service agencies will deal directly with issues of local importance. It seems evident that the PL-3 programing concept provides a fine opportunity for an interchange of ideas between the university and the community.

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[1] Extracts from a statement prepared by Dr. John Shepherd, director of broadcast services and televised instruction.

PL-3 presented about 37 programs each week during fall and winter terms 1965-66, most of which were produced in university studios. These programs ranged from instructional to cultural. In the "specials" category, emphasis was placed on the presentation of public affairs programs dealing with issues of local and national interest. In summary, PL-3 shows a diversified and well-rounded program schedule closely fitted to the needs and interests of the university and the community. Examples of studio production for PL-3 are:

Title of Series	Type	Length per Segment	No. of Segments	Academic Dept. Involved in Production
TV Seminar	Instructional	:60 min.	1	Economics, Psych., Broadcast Services, Education
Why Did the Fed. Do It	Public Affairs	:60 min.	1	Economics
TIAA & CREF	Public Affairs	:60 min.	1	Office of the Dean of Faculties
Eugene Campus Report	News	:05 min.	41	Journalism
UO College Bowl	General	:30 min.	16	Various
Principles of Economics	Instructional	:30 min.	54	Economics
Children's Literature	Instructional	:45 min.	19	Education
Specials	Various	Various	28	Various

Summary

139	programs produced in studio for PL-3 only
56	programs produced for CCTV classroom use replayed on PL-3 in evening hours
19	programs produced for OETV and re-run on PL-3
214	programs produced in studio and run on PL-3

As suggested above, closed-circuit television was also used for direct instruction both in and out of the classroom. These data are reported below:

Course Title	No. Times Per Week	No. Students Served Per Term
Economics 201, 202, 203[a]	12	1,505
Chemistry 104 (Special Sessions)	2	300
Biology 103 (Special Sessions)	2	500
Audio Visual Aids, Ed 435	3	56
Children's Literature, Lib 490	4	76
Chemistry 103[c]	2[b]	300
English 488[c]	2	47
History 201[c]	2	816
Foreign Languages RL 71[c]	2	56
Physical Education 180, 291, 292[c]	3	2,100
Psychology 215[c]	2	274
Sociology 303[c]	2	100
Speech 444[c]	2	20
	Total No. Students Served	6,150

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[a] This course was tape recorded at the time of first presentation. These recordings will be used for all instruction in the course during 1966-67.

[b] Number presentations based on average week for 1965-66.

[c] Made use of segments and/or supplements on a required basis.

Effectiveness of Television Teaching For the Improvement of Instruction

What factors regarding the relative effectiveness of television instruction should become determinants of its use? The preponderance of several hundred carefully designed studies shows few significant differences in achievement in comparable courses taught by conventional and television methods under controlled conditions. The total research effort thus far has not indicated a clear-cut direction, in terms of learning criteria, upon which the use of television for instruction can be based. Because of the lack of adequate evidence and overall guidelines, the decision to use television for instruction must proceed from an "ongoing empiricism" that is specific to the needs of departments, preferences of faculty and students, and carefully limited overall institutional goals. There is not a satisfactory basis, as yet, to justify the use of television for teaching across the total spectrum of the curriculum of higher education.

And there does exist an honest skepticism about the extensive use of television in higher education. At the present, total television teaching for an entire course should involve only a minor proportion of the total college and university education of students. Courses should be primarily at the lower-division level, of a type which is offered in multiple sections, and which is sometimes characterized by a lower quality of instruction than is desirable, due to shortages of fully qualified staff. Identification of courses within this category for television instruction may result in economy, flexibility in space utilization, and maintenance of quality education. Such a core of courses should constitute the primary limits of television teaching for an entire course.

There are numerous other ways, however, by which television can be used for the improvement of instruction and education aside from the total teaching of regular courses. Because of its capacity (1) for enrichment of regular instruction and for superior demonstration-type lectures which require close-up viewing, such as in biology and chemistry, (2) for special applications such as in teacher-training, (3) for concentrating many outstanding teachers in the classroom instantaneously and repeatedly, and (4) for capturing contemporary figures and phenomena, television is an instructional tool almost without parallel for use in conjunction with the classroom teacher. The above attributes, together with its capacity (although not yet completely tested) for total instruction of courses, insure its place in higher education - and demand that every effort be made to exploit its potential.

The Cost of Television Instruction

Interinstitutional Broadcast

State system cost data for the interinstitutional television teaching project show that interinstitutional television teaching has not achieved economy in cost when compared with conventional teaching. As developed during the past seven years it has cost as much or more than conventional instruction. It must be clearly stated, however, that the interinstitutional television teaching program in Oregon was experimental in nature with the improvement of instruction as its main objective. Courses common to the several participating institutions were offered in the conventional manner as well as by television. Representative or even token enrollment of students in each televised course was sought on each campus.

Some of the televised courses were highly specialized offerings; these courses brought an enriched curriculum in course availability to students at other campuses but were generally low in enrollment and consequently costly per student. (The cost involved in setting up comparable courses, however, or even a new department on a different campus, would have been far in excess of the actual cost of using television to distribute a course from an institution where the specialized instructional program already existed.) The open-circuit system itself added to the cost per credit hour.

It must also be noted that since there never was a total enrollment in a specific large multiple-section course, a precise, adequate test of cost per unit was not achieved.

These facts notwithstanding, the future for interinstitutional television, as can best be judged at this time, suggests clearly that sufficient enrollment to achieve greater economy and to maintain a large scale program of courses will not be attained; further, sufficient improvement in the quality of instruction to warrant increased cost has not been demonstrated except for specific applications, related particularly to supplementation of the curricula of smaller institutions by their access, through television, to programs of larger institutions.

Closed-Circuit Broadcast

"Cost analyses are difficult to find in closed-circuit television literature, and are not sufficiently convincing to overcome skepticism and natural reluctance to change."[1] Television teaching is expensive - particularly if initial investment in equipment and facilities is included in computations, as properly it should be. Theoretically, closed-circuit television teaching costs can be less than the costs of comparable conventional instruction for large-enrollment, multiple-section lower-division courses, assuming primarily a single lecturer through a relatively non-complex closed-circuit system. Careful cost accounting to date, however, has not permitted much generalization regarding cost.

Video Tape Rebroadcast

A significant value of video tape is to be found in immediate playback; this requires a television lecturer to present his lecture in person only once, rather than two or more times to meet different broadcast times. Video tape reproductions may have a potential for cost reduction, since once a video tape is made, its replay requires only transmission through the electronic equipment, with few other costs. At this stage in the development of educational television, however, great caution is warranted regarding use of video tape even though it can be a factor in decreasing the cost of instruction. To assume repetitive showings of courses over a period of several school years through video tape without careful evaluation and updating is an oversimplification of the requisites of quality education.

Television as a Supplement to Faculty Resources

Criteria for determination of whether television instruction should be more widely used in post-high school education in Oregon are as follows:

1. Television teaching should result in a measurable improvement of instruction, such as increasing the availability of outstanding teachers, enrichment of conventional teaching, and more effective use of audio-visual materials.

2. As with any teaching, television instruction should result in measurable student learning.

3. The use of television should strengthen the state's pool of instructional resources, enabling the capacity of each institution to become readily available to other institutions.

4. The use of television should facilitate increased efficiency in utilization of the physical space in institutions of higher education.

5. The use of television should extend the educational resources of higher education beyond the campus to the general public.

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[1] Lyle M. Nelson, Stanford University.

Factors which will govern the future use of television for teaching:

1. Acceptance of television by the faculty of higher education.
2. Clarification of institutional policy for governing the use of television for teaching.
3. Identification of instructional areas most adaptable to television.
4. Identification and selection of television teachers and teaching techniques.

There is mixed reaction among college and university faculties regarding the use of television for instructional purposes. Although some teachers acclaim television's use - particularly those who have taught on television - others question its potential for education. If television is to gain greater acceptance as a teaching tool, therefore, it is of first importance to establish basic objectives for the medium which are acceptable to faculty. The willingness of faculty to use the medium will depend in large measure upon clarification of purpose, evidence of need, and evidence that television will maintain or improve rather than lessen the quality of education.

Recommendations

General Planning Guidelines

1. Long-range planning for the development of educational television should place major emphasis upon identification and utilization of television's capability for the improvement of instruction in both four- and two-year institutions as opposed to emphasis solely upon television's capacity to reach large numbers of persons simultaneously.

   In addition to its use for instruction of all or a portion of specified formal courses, television can be used for enrichment of conventional instruction, for increased efficiency in the use of audio-visual aids, for striking, unparalleled improvement in the use of demonstration-type lectures such as in chemistry and biology, for capturing phenomena of unique or current interest and value, and for concentrating many outstanding teachers in the classroom instantaneously and repeatedly. Through such varied capacities television has the capacity to improve instruction. With television teaching as with other kinds of instruction, however, improvement of quality will require the allocation of more, rather than fewer resources. Quality television instruction can only be achieved with adequate financial support.

   At the community colleges, television broadcast facilities can provide laboratory facilities for electronics and communication instruction.

2. Continuing study should be conducted to identify and utilize educational television's potential for facilitating effective assignment of teachers and coping with shortages of qualified staff.

   To "oversell" television as a means of meeting teacher shortages is naive and detrimental to the development of education. Judiciously used, however, television teaching can facilitate effective assignment of teachers. The most significant elements in this regard are to encourage the utilization of the system's most outstanding teachers for simultaneous instruction of large numbers of students by television; to encourage - by proper utilization of television instruction for large groups - reassignment and redeployment of faculty for teaching in lower-division discussion sections and colloquies and low-enrollment upper-division courses and seminars; and to encourage the use of video tape recording for instruction - only on the basis of clearly specified guidelines which establish firm guarantees regarding the maintenance of quality instruction.

3. Continuing fiscal analyses of educational television should be conducted to identify both its potential and limitations for effecting economy in education.

   Although careful cost accounting thus far has not demonstrated that television teaching does decrease costs of education, such a potential may exist in the use of television for direct instruction of total courses in those curricular areas where it is appropriate and does not dilute the quality of education. The final determination of the extent to which television can reduce instructional costs is yet to be revealed.

4. Educational television should be used to strengthen the state's pool of instructional resources, by making outstanding curricular strengths, specialties, and faculty from each college and university available for general use in higher education.

   One of the potentially significant benefits of television is to make the outstanding curricular strengths and specialties of each institution available to students at other institutions. A particularly important application is that of making resources from large institutions available to smaller institutions. This capacity has emerged as one of the most important factors of the Oregon interinstitutional teaching project and may remain as the primary continuing element in interinstitutional teaching. Such arrangements are particularly important for two-year institutions, which will profit greatly from a continuing flow of instructional materials, resources, and courses from four-year institutions through interinstitutional open-circuit television, the use of video tape, and other sharing mechanisms.

5. Broadcast television should be developed as a major communications medium to extend the educational resources of the state and nation to the people of Oregon.

   Present capacity for meeting the public's need for continuing education (as described in Chapter XI) can be supplemented to a significant degree by the use of broadcast television. The independent colleges and universities and the public institutions have untold program resources - in economic and social understanding, in scientific and literary areas, and in appreciation of the arts. These can be translated, through educational television broadcasting, into regular post-high school educational experiences for public consumption.

6. Increased substantial support should be directed by Oregon institutions of higher education toward expansion and utilization of closed-circuit television for direct instruction, enrichment, and achievement of other relevant objectives.

   Oregon has had nine years of intensive experimentation and operating experience with the use of television for instruction. It has explored in depth the implications of both closed-circuit, single institutional television and open-circuit, interinstitutional teaching programs. There is complete consensus based upon this extensive experience, as illustrated in the institutional statements previously presented in this chapter, that major emphasis in instructional television should be closed-circuit.

7. Continuing, although much less extensive, support should be given for the maintenance of an interinstitutional television instructional pattern with the goal of further exploration of interinstitutional television as a means of strengthening the state's pool of instructional resources.

   Experience of the past nine years has demonstrated that for the future the interinstitutional teaching arrangement, as carried out through an open-circuit broadcast system, is not an adequate organizational pattern for the development of a television instruction program to its fullest potential. Organized differently, with the expanded use of video tape in a manner which could minimize the coordinative-administrative details, television on an interinstitutional basis could find more acceptance and utilization over the long term.

Long-Range Development of Physical Facilities

1. The long-range development of physical facilities should provide both self-contained, closed-circuit systems on each campus, and a state-wide open-circuit system of educational channels that can reach most institutions and the public.

   Other alternatives include:

   a. The existing open-circuit system without closed-circuit facilities.

   b. A self-contained closed-circuit system on each campus without the existing open-circuit system.

   c. A self-contained, closed-circuit system on each campus with a mechanical interconnection which can unite all campuses by closed-circuit and with the existing open-circuit system.

   Alternatives (a) and (b) are inadequate. Alternative (c) may become feasible in the future.

   The record of television teaching in Oregon shows clearly that the primary need and institutional preference is for course instruction that is developed and used on a single campus. However, institutions with studio-production capacity should recognize a responsibility to develop post-high school education programs for the general public. To carry out both of these activities effectively requires the availability of both closed-circuit (limited to one campus) and open-circuit (general public broadcast) systems. The open-circuit system also has the potential of providing interinstitutional course instruction and educational programs as the need develops in the future. To have less than full closed-circuit systems on each campus, with concurrent availability to the state's open-circuit educational channels, would severely hamper the use of television by higher education for its own students and in meeting its responsibility for post-high school continuing education for the general public.

2. The open-circuit system, with its studios in Portland and Corvallis, and under the auspices of the Division of Continuing Education, should be maintained at currently planned levels, and further expansion should be authorized to enable the State System of Higher Education to fulfill its general obligation of education for the citizenry of Oregon and to furnish facilities through which other state agencies reach the public.

3. Television broadcast and studio capacity (for both closed- and open-circuit) should be provided, according to the developmental plan of each institution and the Division of Continuing Education, to a degree which is sufficient to permit the use of television for the following activities on a concurrent basis:

   a. On-campus closed-circuit television instruction.

   b. Interinstitutional television instruction.

   c. Enrichment of conventional instruction through television.

d. State system programing for the general public - particularly in public service and community development functions - and the public schools.

e. The development of a repository of "sight and sound" television materials.

f. For a whole range of non-credit, non-formal, and informational activities, such as faculty self-evaluation, professional inservice training, observation in public schools, administrative operations, and others.

4. Additional materials production centers (not necessarily broadcast) should be established to provide the fullest range of resource materials for both closed- and open-circuit broadcast, and to utilize and exploit more fully the total educational potential of the state.

5. Television facilities should be provided as necessary to encourage and facilitate research in communications and broadcasting systems.

   Research in the communication process is of fundamental importance to various programs in higher education - speech, journalism, sociology, psychology, and others. Television offers a primary laboratory for controlled experimentation designed to discover general principles of communication. As an important part of such activity, emphasis should be given to research on broadcasting - techniques of broadcasting, teacher selection and utilization, audience surveys, and others. Research related to teacher selection is crucial as an element in fostering the use of television teaching.

   Broadcasting utilization of the educational television stations will need to be emphasized increasingly in the development of information networks for administrative communication, computer system linkage, computer data exchange, library information transmission, and similar telecommunications systems.

6. Studio and technical facilities should be established as necessary to provide for the professional education of students in theory and practice in television broadcasting.

   Television studio broadcasting facilities are a primary educational resource for students in departmental programs of speech, drama, and journalism - professional areas which will show continuing growth and expansion. Quality education in these areas requires actual studio facilities for laboratory work.

7. Educational television should be used as appropriate to facilitate increased efficiency in utilization of the physical space of institutions of higher education.

   Television's capacity for facilitating flexible scheduling through the use of video tape playback in which sections can be offered at any time during the day can be significant in making optimal use of classroom facilities. Of further importance is the possibility of using dormitories and home sets for selected aspects of an institution's educational program through television - i.e., increasing the use of existing non-classroom space for viewing.

Organizational and Administrative Patterns

The primary responsibility for administering educational television has rested with the Oregon State System of Higher Education. Interinstitutional television has been administered directly out of the Chancellor's office, operation of the broadcast television facilities and programing for the general educational areas for the public have been administered by the Division of Continuing Education, and the emerging closed-circuit systems have been administered by groups on each campus. The degree to which greater centralization of operational administrative responsibility is necessary is a basic question. Central administration of open-circuit facilities can provide savings and improve efficiency. Complete and highly centralized control over programing content, such as might be found if absolute control were vested in a single state agency, or such as characterizes national commercial television broadcast corporations, is not desirable and not recommended.

Centralized administration of programing is necessary for a network of state-owned educational channels. Control of the determination of program content should be diffused to reflect the views and needs of participating institutions.

The basic need is for full coordination of broad policy matters to guide the future development of television, including compatibility and other aspects of its physical systems, and for allocation of television broadcast resources among using groups, particularly the State Department of Education and other governmental agencies, public school districts, community colleges, Oregon's independent colleges, institutions of the State System of Higher Education, and the general public of Oregon. Coordination should deal with the development of policy involving the interrelationships among the above groups, and to some extent it should reflect a consultative involvement in operational day-by-day aspects of programing and broadcasting.

Presently such coordination is emerging from the educational television and radio subcommittee of the Educational Coordinating Council, and the Chancellor's educational media council. The former includes representation from the broad spectrum of public and government sectors; the latter coordinates television activities of the state institutions of higher education. Currently there is an overlapping membership on the two bodies, thus, some coordination between these two groups is actually provided.

The educational television subcommittee is essentially a volunteer group; it has no executive staff who can be charged with the responsibility for implementing the recommendations of this report or the design for the future of television education. The members of the educational media council are television administrative persons who are in a position to initiate action within the state system. The council should continue as a main agent of diffused control within the state system.

1. The educational television and radio subcommittee of the Educational Coordinating Council should be assigned primary responsibility for coordinating the varied post-high school educational television activities in Oregon. The subcommittee should maintain a specifically delineated overlapping membership with the Chancellor's educational media council and be provided with a budget and staff sufficient to carry out the coordinative functions assigned to it.

2. The actual operation of the open-circuit system and any developing interconnected closed-circuit systems should continue to be the responsibility of the State System of Higher Education, in preference to designation of a non-educational bureau or other kind of organization.

3. The internal operation of each closed-circuit system should be the responsibility of personnel on the respective campuses.

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CHAPTER XIV

Physical Plant

The Committee's recommendations concerning the post-high school physical plant are based on three premises:

1. The educational value of the physical plant can be measured only in terms of how well it supports the programs of the institution and not in terms of how much it costs, how intensively it is used, or the number of square feet it makes available per student.

   A physical facility may be scheduled very heavily throughout the daytime and evening hours, or it may be used exclusively by a small, select student group enrolled in a highly specialized curriculum. It may be simple or elaborate, old or new. But whatever its characteristics, the physical plant exists only that the programs of the institutions may be served.

   So critical is an adequate physical plant to successful realization of an institution's objectives, that when the physical plant is non-existent or markedly inadequate to the needs of the institution's programs - as in the case of new institutions, rapidly growing ones, and ones laboring with an obsolete facility - awareness of this handicap is so acute on the part of the institution's executives, governing body, and friends that the capital construction program becomes a major institutional goal.

2. Investment in the post-high school physical plant is large; it is to be expected that those in charge of planning, development, maintenance, and administration of this plant - whether they be public employees, administrators of independent institutions, or owners of proprietary schools - will continue to make every effort to insure that the physical facilities serve institutional objectives efficiently and effectively.

   Physical facilities reflect the many and diverse functions of an institution. A large, complex institution serving a large geographic area and offering many specialized programs will have physical facilities correspondingly complex. If the institution has been in existence for a long while this space might be in various stages of functional as well as physical obsolescence. If the institution has experienced sharp enrollment increases during its history, it may have accumulated various temporary structures which it has not been able to replace. Illustrative of the diversity among institutions, and their physical plants, are the two quite different institutions described below.

   The land-grant institution, with its varied array of instruction, research, and service programs, usually exhibits the most complex physical plant. In Oregon this is true of Oregon State University, which has 88 buildings on its 400-acre main campus, among them Benton hall (constructed in 1888 and still in use), a forest research laboratory, dairy and sheep barns, married student housing, a sports coliseum, heating plant, administration annex which is World War II surplus, and a new library (constructed in 1963) which already is judged to be too small. Fall term 1965 OSU served its 11,726 FTE students with 113 classrooms and 174 laboratories. The classrooms provided 6,787 student stations; the laboratories, 4,746.

The basic Oregon State University campus was constructed during a twenty-year period from 1908-1928. Many of these facilities are ill-suited to a modern, science-based curriculum.

On the other hand, Southwestern Oregon Community College, whose potential enrollment is estimated at approximately 1,370 FTE, occupies a new campus located in the Coos Bay area at Empire Lakes. It has a comparatively simple physical plant consisting of five new buildings - shops, technical laboratories, administration, science, and classroom - and an older building being used as a student center, on a 124-acre campus. Library, counseling center, and study center are housed temporarily in the administration building. The institution enrolled 1,247 individual students fall term 1965, 406 in the college transfer program, 644 in vocational-technical training, and 197 in adult education classes. Full-time-equivalent enrollment, based on 15-hour student load, was 681. According to the 1966-67 SWOCC catalog, planned additions to the campus include a library, physical education building, student service building, physical plant, fine arts center, and natural science museum. No student housing is contemplated.

In building now for its estimated potential enrollment of 1,370, Southwestern Oregon Community College has acquired, for an interim period, a capacity in classroom and laboratory space somewhat in excess of its enrollment needs. If it is to offer its students a variety of curricula, particularly in the technical areas, it may always find that some of its specialized laboratories and shops are used only a small number of hours per week.

3. The state will continue to provide facilities in response to enrollment and curricular needs. It will not adopt artificial limitations on lower-division enrollments in specific institutions as a means of forcing students into an institution other than that of their first choice.

Though Washington and California have imposed differentiated admissions standards in their major institutions, it appears that Oregon's planned development of its existing public four-year institutions will require no such limitations. Washington, whose population according to the Department of Commerce 1964 census projection is 2,967,000, has five state-supported four-year colleges, one for every 593.4 thousand people. California, population 18,077,000, has 20 state colleges and the 9-campus University of California, a total of 29 four-year campuses, or one for every 623.3 thousand people. Oregon, with 1,881,000 population, has six state-supported multi-purpose four-year institutions, one for every 313.5 thousand people.[1] If Oregon State Board of Census Oregon population estimates are used, instead of the United States Bureau of Census estimates, Oregon has one four-year institution for every 328.7 thousand people. If OTI is included, Oregon has one four-year state-supported institution for every 281.7 thousand people.[2]

No Oregon multi-purpose institution is yet approaching a size which would force establishment of an enrollment ceiling. Rapid development of Portland State College and Southern Oregon College as liberal arts institutions has slowed the growth of the state's two state-supported universities, Oregon and Oregon State. Development of Portland, Mt. Hood, Clackamas and Washington county community colleges, as planned over the next several years should ease the pressure of lower-division enrollments on Portland State College.

Enrollment projections of the state system's office of institutional research through 1976-77 anticipate that only one of Oregon's three largest institutions -

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[1] Census projection from United States, Department of Commerce, Bureau of the Census, Population Estimates, Series P-25, No. 333, March 30, 1966, p. 6. Number of institutions from National Beta Club College Facts Chart, 1965-66, ed., Jno. W. Harris (Spartanburg, S. C.: Band and White Printers, 1965), pp. 2-5.

[2] State Board of Census: July 1, 1965 Oregon Population estimate: 1,972,150.

Oregon State University - will reach fall term FTE enrollment of 18,000 during the next decade (Table 72). Eighteen thousand students is not a large enrollment for a major American university.

TABLE 72

PROJECTED FALL TERM FTE ENROLLMENTS
STATE SYSTEM OF HIGHER EDUCATION MULTI-PURPOSE INSTITUTIONS
1966-67 to 1976-77

Year 1	OSU 2	UO 3	PSC 4	OCE 5	SOC 6	EOC 7
1966-67	12,513	11,951	8,746	2,188	3,375	1,415
1967-68	13,671	12,457	9,706	2,372	4,052	1,519
1968-69	14,631	12,940	10,353	2,458	4,450	1,579
1969-70	15,253	13,296	10,596	2,494	4,740	1,605
1970-71	15,958	13,883	11,152	2,597	4,970	1,676
1971-72	16,625	14,539	11,810	2,714	5,147	1,748
1972-73	17,355	15,125	12,091	2,800	5,310	1,796
1973-74	17,962	15,639	12,362	2,883	5,432	1,848
1974-75	18,435	16,116	12,567	2,940	5,525	1,888
1975-76	18,930	16,611	12,788	2,994	5,614	1,929
1976-77	19,439	17,006	12,911	3,037	5,673	1,958

Source: Office of Institutional Research, Oregon State System of Higher Education.

The committee believes that any community college district which, in planning its capital construction program, assumes that the state's four-year institutions will be forced by enrollment pressures to make radical changes in their admission policies is making an unwarranted assumption. There is no evidence that the state, by manipulation of its capital construction programs, will seek to limit its citizens' choice of educational opportunity. On the contrary, the history of Oregon state-supported education shows an ever increasing broadening of opportunity.

Measures of Space Utilization

Classroom and institutional laboratory utilization. The efficiency of classroom and instructional laboratory utilization of an institution has been customarily measured in terms of (1) teacher-station (room) utilization and (2) student-station utilization.

In measuring the teacher-station utilization of classrooms or teaching laboratories of an institution, one measures the number of hours during the week that the rooms and teaching laboratories are scheduled for use. Thus if an institution operates on a 44-hour week (eight hours Monday through Friday and four hours on Saturday morning) and if the classrooms and teaching laboratories are scheduled for use six hours on Monday, Wednesday, and Friday; five hours on Tuesday and Thursday; and two hours on Saturday morning, (a total of 30 hours), then the institution would be said to have achieved 70 percent utilization of its teaching stations.

In measuring the student-station utilization, one is concerned with measuring not only the room and teaching laboratory utilization in terms of the number of hours during the week they are scheduled for classes. One is also concerned with knowing to what extent the rooms and teaching laboratories, when in use, actually house the number of students they are capable of housing. For example, if a classroom is rated as being able to seat 30 students and the classes scheduled in that room during the week average 20 students rather than 30, the student-station utilization would only be 66.6

percent, even if the classrooms and laboratories were scheduled to house a class during each of the 44 hours in the week (assuming the institution were operating on a 44 hour week). Since it is not possible to schedule the class rooms and laboratories that well, it is obvious that, in the case cited above, the student-station utilization would be somewhat below the 66.6 percent.

Space Management and Planning

As a basis for determining its physical plant needs and for using effectively the existing plant, an institution must know: (1) what space it presently has at its disposal, (2) the extent to which the present space is being used, (3) how many students the existing space can accommodate when efficiently scheduled, (4) how much additional space will be needed in the future and at what point in time, (5) what it will require to put the existing space in good condition, (6) how much will it cost to build the additional space.

Space Presently Available

To have full possession of this kind of knowledge concerning the existing physical plant resources of the institution, an institution must have (1) a detailed and up-to-date campus map showing land presently available, its use, and any areas of planned or potential campus expansion, (2) a descriptive inventory of available space. The space inventory should identify the physical plant space by function and describe it in terms of size, occupancy (actual and potential), and condition (temporary, permanent, obsolete-can be rehabilitated, obsolete-remove, etc.).

The committee's investigation revealed that most of the post-high school institutions in Oregon have established and maintain some kind of space inventory, although the inventories for different institutions or groups of institutions are not precisely comparable because of differences in procedure and the classification of space.

Extent to Which Available Space Is Being Used

The extent of space utilization in educational institutions is customarily expressed both in terms of teacher-station usage and of student-station usage. An even more sophisticated index expresses in a single term - the square feet of assignable floor space per 100 hours of student occupancy - both scheduled use and student-station utilization. The smaller the number, the more efficient the use of space. Data may also be collected indicating room- and student-station utilization by hour of the day and day of the week. The sizes of classes and the capacities of rooms in which they meet may be compared to determine how well facilities fit instructional policies.

Space utilization of classrooms and laboratories is a subject of intense attention across the nation. Utilization indices are becoming more sophisticated, more meaningful, and more difficult for the uninitiated to understand. Specialists in facilities utilization and planning are being employed in increasing numbers to guide and advise those charged with development and administration of the higher education physical plant.

Utilization indices are not magical. Quite obviously there is a point beyond which more intense utilization will only derogate the educational program. But such indices must be recognized for what they are - useful tools to help institutions get better service from their physical facilities.

Space Utilization Experience
Oregon Independent Institutions

Although only three independent institutions in Oregon reported that they had formally established room utilization objectives, room utilization actually achieved fall term 1964 at these institutions (Table 73, p. 362) indicates that in their capital construction programs and enrollment objectives high utilization of facilities is established policy. None of these independent institutions reported computing student-station utilization.

Actual utilization is a more precise reflector of institutional utilization policies at private institutions than it is at public ones, simply because the private institutions can and do limit their enrollments to the numbers and kinds of students desired. A limitation on enrollments in public institutions exists only at the University of Oregon Medical and Dental schools, in certain graduate programs, and in some vocational and technical programs offered by the community colleges.

Space Utilization Experience
State System of Higher Education

The State Board of Higher Education adopted space utilization objectives for both rooms and student stations in July 1960 as follows:

> Room Use:
>
> Classrooms - the expected utilization of classroom space at each institution shall be at the maximum practicable level. The objective shall be to achieve an average classroom use of 30 scheduled hours per week (representing 70 percent utilization of rooms during a 44-hour week),[1] except where special conditions at a particular institution justify a different objective.
>
> . . . .
>
> Student-Station Use:
>
> Classrooms - average use of 18 scheduled hours per week (representing 60 percent of the 30 hours of room use indicated above, which is equal to approximately 41 percent utilization of rooms during a 44-hour week).[1]
>
> Laboratories - average use of 16 scheduled hours per week (representing 80 percent of the 20 hours of laboratory use indicated above, which is equal to approximately 36 percent utilization during a 44-hour week).[1,2]

On July 12, 1962, the board reaffirmed the foregoing objectives and approved space standards for building planning.

New classroom and laboratory construction for the state system for 1965-1967 was projected on the basis of minimum objectives of 33 hours scheduled occupancy per week for classrooms, 22 hours per week for classroom student stations, 16.5 hours for laboratory students stations. It will be observed that the planning objectives used for the 1965-1967 biennium are higher than those suggested in the objectives above.

Oregon State System utilization objectives for its colleges and universities are the same as those set up in the master plan of the University of California,[3] projections

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[1] Changed to 45 hours effective with fall term 1965.

[2] Minutes of the State Board of Higher Education, Meeting #304, June 12, 1962, pp. 221-224.

[3] California, State Department of Education, A Master Plan for Higher Education in California, 1960-1975 (Sacramento: California State Department of Education, 1960), pp. 96-97.

TABLE 73
CLASSROOM AND LABORATORY UTILIZATION FOR OREGON INSTITUTIONS BY INSTITUTION AND HOURS PER WEEK
FALL TERM 1964

Institutions	Classrooms		Laboratories	
	Minimum Objectives	Utilization Achieved	Minimum Objectives	Utilization Achieved
1	2	3	4	5
Independent[1]				
Concordia	-	31.9	-	18.0
George Fox	-	31.5	-	21.0
Lewis & Clark	28	26.5	21	21.4
Linfield	-	32.0	-	22.0
Marylhurst	-	25.2	-	15.4
Mt. Angel	-	23.0	-	13.0
Pacific	-	31.5	-	34.5
Reed	-	24.0	-	34.5
U of Portland	33	33.0	20	21.7
Warner-Pacific	40	34.0	40	26.0
Willamette	-	16.5	-	11.5
State System[2]				
Eastern Oregon	30	34.7(34.9)[3]	20	23.8(23.8)[3]
Oregon C of E	30	30.2(31.2)	20	19.2(19.2)
Oregon State	30	25.6(26.7)	20	19.4(19.5)
Oregon Tech	30	32.5(36.9)	20	25.7(25.7)
Portland State	30	33.7(42.3)	20	23.7(28.6)
Southern Oregon	30	42.3(42.3)	20	26.6(26.6)
U of Oregon[4]	30	30.2(32.4)	20	17.2(17.6)
Community Colleges[5]				
Clatsop C. C.	32	18.8(23.4)[6]	24	16.3(22.1)[6]
Central Ore. C. C.	32	29.3(32.5)	24	19.3(20.9)
Salem Tech.-Voc. C. C.	32	35.6(52.3)	24	24.5(29.4)
Southwestern Ore. C. C.	32	30.1(34.0)	24	20.8(27.4)

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[1] Cascade omitted because comparable data not available.

[2] State system figures do not include classes scheduled in temporary facilities, such as quonset huts, war surplus structures, and conference rooms.

[3] Numbers in parentheses indicate utilization if evening classes scheduled in institutional facilities through the system's Division of Continuing Education are included.

[4] Medical and Dental schools not included.

[5] Utilization data for community colleges are based upon classes scheduled in permanent quarters only. During fall quarter 1964 three of the seven community colleges then in existence were using temporary quarters exclusively.

[6] Numbers in parentheses indicate utilization including both day and evening classes.

Source: Independent colleges and universities; Office of Facilities Planning, State System of Higher Education; and State Department of Education.

of space needs for Oklahoma institutions of higher education,[1] and recommendations concerning capital construction needs of the colleges and universities of Illinois.[2]

Room utilization actually achieved fall term 1964 is reported in Table 73, p. 362. State system figures exclude classes scheduled in temporary facilities - for example, the emergency use of non-instructional facilities, such as conference rooms. The very high utilization figures of Southern Oregon College in 1964 reflect overcrowded conditions on that campus fall term 1964. The high utilization possible in a large population center is illustrated by Portland State College-Portland Continuation Center figures. In addition to classes regularly scheduled during the evening hours by the college, the facilities are used extensively at night for continuing education classes.

Space utilization figures for fall term 1965 are shown in Table 74, below. Sharp drops in utilization figures for Southern Oregon and Eastern Oregon colleges reflect opening of new classroom-laboratory buildings.

TABLE 74

UTILIZATION OF PERMANENT FACILITIES
STATE SYSTEM OF HIGHER EDUCATION AND COMMUNITY COLLEGES
FALL TERM 1965

Institution	Room Utilization		Student Station Utilization[1]	
	Classroom	Laboratory	Classroom	Laboratory
1	2	3	4	5
Eastern Oregon College	25.0 (25.0)[3]	15.8 (15.8)[3]	14.8	12.9
Oregon College of Education	26.0 (27.0)	20.1 (20.5)	19.3	18.4
Oregon State University	29.8 (31.1)	20.5 (20.6)	18.1	15.1
Oregon Technical Institute	28.6 (33.4)	23.8 (24.8)	21.9	20.5
Portland State College	33.2 (44.3)	25.4 (31.1)	25.7	23.2
Southern Oregon College	34.3 (34.5)	24.4 (24.4)	25.1	18.3
University of Oregon[2]	33.6 (35.7)	19.8 (20.1)	21.8	17.5
Average, Seven Institutions	31.3	21.3	21.0	17.2
Blue Mountain Com. Col.	33.5 (35.7)[3]	17.5 (17.5)[3]		
Central Oregon Com. Col.	36.4 (40.3)	31.2 (32.7)		
Clatsop Community College	23.6 (29.3)	16.3 (19.3)		
Salem Tech.-Voc. School	29.4 (37.4)	20.9 (29.5)		
Southwestern Oregon Com. Col.	15.0 (19.9)	14.4 (19.4)		
Treasure Valley Com. Col.	23.4 (38.4)	19.2 (32.0)		

[1] Student-station utilization studies not available for community colleges.
[2] Medical and Dental schools not included.
[3] Figure in parentheses is average hours per week of scheduled use including evening classes.

In addition to maintaining space inventories and assembling room and student-station utilization data, the state system's office of facilities planning assembles data on the assignable square feet per 100 student station hours and scheduled occupancy by hour of day and day of week, for rooms and student stations, for each institution.

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[1] Oklahoma, State Regents for Higher Education, Physical Facilities for Higher Education in Oklahoma (Self-Study of Higher Education in Oklahoma - Report 5; Oklahoma City; December, 1965), pp. 66-68.

[2] Master Plan Committee, Physical Facilities (Springfield, Ill.: Board of Higher Education, December 1963), pp. 67-74.

Space Utilization Experience
Oregon Community Colleges

The Board of Education has incorporated in its building criteria for Oregon community colleges the expectation that the community colleges will schedule classroom space on their permanent campuses an average of 32 hours per week (80 percent utilization of a 40-hour week) and laboratory space 24 hours per week (60 percent utilization). Objectives for student-station utilization are 21 hours per week average for classrooms, 19 hours for laboratories.

In 1961 the State Department of Education issued for the community colleges a statement of Building Criteria. Included was an expression of the expectation that community colleges would achieve, on their permanent campuses, a room utilization of 35 hours per week for classrooms and 25 hours per week for laboratories. Student-station utilization objectives were established at 21 and 20, respectively. The State Department of Education still believes these standards "can and should be achieved"[1] as institutions approach their potential student enrollment. However, the proposed new formula for determining the amount of state building funds for which an institution is eligible will permit the lower level of utilization for beginning institutions described in the preceding paragraph.

Actual student-station utilization achieved by the six community colleges occupying some permanent campus facilities is not available. Room-use figures in Tables 73 and 74 have been reconstructed by the State Department of Education from the record of classes scheduled.

Promoting Fuller Utilization of Facilities

Viewing utilization objectives of the two Oregon boards (State Board of Higher Education and State Board of Education) against actual utilization achieved by comparable two-year and four-year institutions in the United States leads to the conclusion that the Oregon standards demand a high level of facilities utilization (Tables 75 and 76).

Increasing Facility Utilization

Institutions of the State System of Higher Education are, with little exception, achieving established utilization objectives during the regular academic year.

High physical plant utilization during the academic year is achieved by scheduling laboratory periods and classes as tightly as possible throughout the day, five days a week; increasing the number of classes scheduled for evening hours; and scheduling classes on Saturday mornings. Classes are regularly scheduled during the noon hour at most of the institutions of the state system.

Any substantial improvement in utilization of state system physical facilities is most likely to come through increased scheduling of classes during the evening hours and encouragement of summer session enrollments.

Traditionally, summer programs are designed for teachers, and competition for these students already is vigorous. So, for most institutions, any substantial increase in summer student population must come from the regularly enrolled undergraduates. However, sessions designed for undergraduates can be offered economically only if the enrollment is large enough to support the variety of courses necessary to make summer enrollment attractive.

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[1] Oregon, State Department of Education, Division of Community Colleges and Vocational Education, A Study of Oregon Community Colleges 1962-1965 (Salem: State Department of Education, February, 1966), p. 61.

TABLE 75

UTILIZATION ACHIEVEMENT PUBLIC COMMUNITY/JUNIOR COLLEGES IN OTHER STATES

Institutions	Average Hours of Scheduled Occupancy Per Week	
1	2	3
	Classrooms	Laboratories
State A - 7 junior colleges, fall 1963	16.7	14.4
State B - Community colleges, 1958-61		
0-300 FTE	26.1	26.0
300-700 FTE	27.4	23.0
700-3500 FTE	27.8	20.3
State C - 6 public colleges, fall 1962	35.4	39.1
	Student Stations	Student Stations
State A - 7 junior colleges, fall 1963	8.9	8.3
State B - Community colleges, 1958-61		
0-300 FTE	16.0	14.4
300-700 FTE	20.0	15.0
700-3500 FTE	20.3	13.0
State C - 6 public colleges, fall 1962	28.1	34.3

Source: Reports on file with the Division of Community Colleges and Vocational Education, State Department of Education, and the Office of Facilities Planning, State System of Higher Education.

TABLE 76

UTILIZATION ACHIEVEMENTS STATE-SUPPORTED FOUR-YEAR INSTITUTIONS IN OTHER STATES

Institutions	Average Hours of Scheduled Occupancy Per Week	
1	2	3
	Classrooms	Laboratories
State A - University median, fall term 1964, 5 campuses	28.7	18.1
State B - 2 universities, fall 1963	25.8	17.4
State B - 9 state colleges, fall 1963	15.8	11.6
State C - University, fall term 1965	30.3	21.8
State D - University, 4 campuses, median, fall term 1964	29.6	12.4
State E - 13 institutions, median, fall term 1964	20.4	15.8
State F - University, fall term 1964	39.0	18.3
	Student Stations	Student Stations
State A - University median, fall term 1962, 5 campuses	16.1	12.1
State B - 2 universities, fall 1963	17.1	14.4
State B - 9 state colleges, fall 1963	9.4	7.5
State C - University, fall term 1965	17.9	20.8
State E - 13 institutions, median, fall term 1964	13.1	12.9
State F - University, fall term 1964	21.8	14.3

Source: Confidential reports received by the Office of Facilities Planning, State System of Higher Education

Experience in Year-Round Operation

State System of Higher Education institutions have offered six 8-week summer sessions (UO; OSU; SOC; OCE; EOC; Portland State College and Portland Continuation Center jointly since 1964, Portland Continuation Center before 1964), primarily for teachers, each year since 1932. In 1965 a seventh session was added at Oregon Technical Institute. The fourth term (an 11-week session primarily for undergraduates, operating concurrently with the 8-week summer session) is meeting with increased success at the University of Oregon, Portland State College, and Oregon State University (Table 77). Several community colleges offer limited summer programs.

TABLE 77

1965 SUMMER SESSION HEAD-COUNT ENROLLMENTS AT INSTITUTIONS OF THE STATE SYSTEM OF HIGHER EDUCATION

Institution 1	Regular Summer Session (8-week) 2	Fourth Term (11-week) 3
Eastern Oregon College	463	-
Oregon College of Education	833	-
Oregon State University	3,514	634
Oregon Technical Institute	93	-
Portland State College	4,319	601
Portland Continuation Center	888	44
Southern Oregon College	1,092	-
University of Oregon	3,339	1,047
Totals	14,541	2,326

Source: Office of Institutional Research, State System of Higher Education.

The Capital Construction Program

Facilities do not "just grow," they are planned. The capital construction program is the institution's response to the questions: How many students can existing space accommodate? How much new space will be needed in the future and at what point? How much will it cost to put or to maintain present space in good condition? What will be the cost of building needed additional space?

Development of Master Plans For Campus Development

All of the multi-purpose institutions and OTI in the State System of Higher Education, the Oregon community colleges, and many of the independent institutions have master campus plans, most of which are directed toward fairly short-range objectives.

Prerequisite to a meaningful master plan are realistic enrollment projections and a clear understanding of the institution's purpose. Institutional purposes in Oregon are fairly well established, as described in chapters VIII, IX, and X. One plaguing uncertainty, however, is the extent of the growth to be anticipated in the Oregon community colleges and the effect these colleges will have on the state's four-year institutions. Experience in Oregon is still too brief to estimate with any precision the enrollments of community colleges for other than the short-range period; and even short-range projection for individual beginning institutions has proved difficult (Table 78).

TABLE 78

PROJECTED OREGON COMMUNITY COLLEGE FTE COMPARED WITH ACTUAL FTE FOR REIMBURSABLE PROGRAMS - 1964-65

1	Projected Reimburs. FTE for 1964-65 2	Actual Reimburs. FTE for 1964-65 3	Percent of Error in Projection 4	Projection was 5
Blue Mountain	379	414.7	- 9.42%	low
Salem Tech.-Voc.[1]	466	453.3	+ 2.73	high
Clatsop	315	334.0	- 6.01	low
Lane[1]	616	563.2	+ 8.58	high
Southwestern Oregon	532	479.1	+ 9.95	high
Treasure Valley	251	379.1	-51.03	low
Oregon City[2]	112	54.3	+51.52	high
Central Oregon	460	419.9	+ 8.71	high
Portland[3]	1,389	1,424.9	- 2.58	low
Umpqua	107	152.4	-42.46	low
Totals	4,627	4,674.9	- 1.03%	low

[1] Vocational-technical programs only. (Lane began offering college transfer courses 1965-66).

[2] This projection was for Clackamas Community College, which will begin operation fall term 1966. Enrollments reported for 1964-65 are Oregon City vocational students.

[3] Vocational-technical and first-year college transfer.

Source: Division of Community Colleges, State Department of Education.

Difficulties in Estimating Community College Enrollments. Until enrollments in the Oregon community colleges stabilize so that projections can be based in part on individual institutional experience, these institutions and the State Department of Education, in making projections, must rely heavily on experience of other two-year institutions.

The formula used by the State Department of Education in preparing enrollment projections, described in Chapter III, and in estimating potential enrollments cited in footnote 1, p. 378 of this chapter, XIV, was derived from analysis of community college development in other states.

Beginning institutions are particularly handicapped in meeting community needs for vocational-technical programs. Suitable temporary facilities usually are not available in the community; permanent facilities provide fewer student stations per construction dollar than do facilities for college transfer programs. Enrollment in vocational and technical programs is severely limited both by availability of facilities and by the comparatively high cost of these programs to the local districts. Restriction of program or enrollment owing to lack of a suitable facility is not so likely to occur in the lower-division liberal arts because adequate facilities for this instruction can usually be borrowed or rented in the community. So long as opportunities for vocational-technical training in the community colleges are artificially restricted, because of lack of facilities or inadequate financial support, total enrollment in the colleges, and division of this enrollment between the liberal arts and vocational-technical programs, will not reflect the potential development of these institutions.

Table 79, below, illustrates the diversity in student body composition among Oregon's community colleges. Some of this diversity may be attributed to socio-economic differences among the communities served, some to differences in community interest, and some to differences in alternate opportunities available in the area for college-age youngsters. A portion must be attributed to differences in curricular offerings (shown in Tables 24 and 25, Chapter V, pp. 98, 99.)

TABLE 79

OREGON COMMUNITY COLLEGE UNDUPLICATED STUDENT HEAD COUNT
FALL TERM 1965

Institution	Lower-Division		Vocational		Other		Total
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	
1	2	3	4	5	6	7	8
BMCC	247	50	292	41	18	-	648
COCC	473	89	90	128	20	65	865
CCC	211	59	168	321	-	101	860
LCC	583	223	509	1,016	69	425	2,825
PCC	1,200	529	498	2,862	203	2,904	8,196
STVCC	-	-	423	1,065	-	-	1,488
SOCC	152	254	95	549	9	188	1,247
TVCC	454	107	238	178	-	21	998
UCC	22	344	8	176	2	260	812
Totals	3,342	1,655	2,321	6,336	321	3,964	17,939

Source: Oregon, State Department of Education, Division of Community Colleges and Vocational Education, Directory of Programs Oregon Community Colleges (Salem: State Department of Education, January, 1966), p. 16.

Capital Construction Policies of Oregon's Independent Institutions

The capital construction policies of Oregon's independent colleges and universities are developed separately in accordance with the objectives and needs of the individual institutions as they see them, and by the requirements laid down in some instances by the individuals and agencies supplying construction funds.

The independent institutions in Oregon included in Table 80, p. 369, expect to construct, or otherwise acquire, facilities worth $51,312,722 during the period 1964-65 through 1970-71 (Table 81, pp. 370-371.) During this period these institutions expect to increase enrollments from 8,986 in 1964-65 to 12,281 in 1970-71.

Capital Construction Policies of the State Department of Higher Education

The State Board of Higher Education has adopted capital construction policies to be observed in the preparation of the board's capital construction programs.[1] Building construction requests are presented to the legislature in order of system-wide priority.

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[1] Minutes of the State Board of Higher Education, Meeting #329, July 27-28, 1964, pp. 351-355.

TABLE 80

INDEPENDENT COLLEGES AND UNIVERSITIES
ACTUAL (1964-65 and 1965-66) and ESTIMATED (1966-67 through 1970-71)
ANNUAL FULL-TIME EQUIVALENCY OF STUDENTS

Institution	64-65	65-66	66-67	67-68	68-69	69-70	70-71
1	2	3	4	5	6	7	8
Cascade[1]	314	319	325	350	350	350	350
George Fox[2]	300	325	350	380	410	430	480
Lewis and Clark	1,262	1,510	1,600	1,650	1,700	1,750	1,800
Linfield	1,066	1,113	1,167	1,200	1,267	1,267	1,340
Marylhurst[3]	540	545	550	585	595	635	680
Mt. Angel[4]	310	400	460	520	580	640	730
Pacific	941	1,030	1,120	1,125	1,180	1,250	1,260
Reed[5]	862	928	985	1,055	1,125	1,125	1,125
U of Portland	1,703	1,730	1,790	1,860	1,970	2,030	2,090
Warner Pacific	268	305	348	399	456	522	606
Willamette	1,420	1,464	1,535	1,620	1,685	1,750	1,820
Totals	8,986	9,669	10,230	10,744	11,318	11,749	12,281

[1] Fall FTE; projection for 1966 extended through 1971.
[2] Fall FTE.
[3] 10 semester hours = full-time.
[4] 12 semester hours = full-time.
[5] Projection for 1969 extended through 1971.
Source: Independent colleges and universities.

The capital construction policies of the State Board of Higher Education include the following provisions:

1. Master campus plans are to be developed and adopted for each institution.

2. Minimum requirement for admission of residents to freshman status at the six multi-purpose institutions is graduation from high school with a "C" average, except that for admission of residents to such status fall term at the University of Oregon, Oregon State University, Portland State College, and Oregon College of Education the average shall be a minimum of 2.25.

3. Space-use objectives shall function as a guide in planning construction needs. (However, criteria upon which laboratory and classroom construction programs at the six multi-purpose institutions for the 1965-1967 biennium were developed indicate a minimum of 33 scheduled hours of occupancy per week for classrooms, 22 hours for laboratories; 19.8 hours per week scheduled occupancy of student stations of classrooms, 16.5 hours for laboratories.)

Action taken by the institutions and by the board's office to implement the policies outlined above include:

1. Projecting enrollments ten years in advance for the individual institutions and for the system.

2. Maintaining an inventory of existing facilities for each institution.

3. Accomplishing annual space-use studies for each institution.

TABLE 81

CAPITAL OUTLAY IN EXCESS OF $50,000 EXPENDITURE
INDEPENDENT COLLEGES AND UNIVERSITIES
ACTUAL AND PROJECTED AS OF MAY 1966

	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	Total	Percent
1	2	3	4	5	6	7	8	9	10
Cascade									
Instructional	-	-	-	800,000	-	-	600,000	1,400,000	36.61
Self-Supporting	-	2,124,000	-	-	-	300,000	-	2,424,000	63.39
Total	-	2,124,000	-	800,000	-	300,000	600,000	3,824,000	100.00
George Fox									
Instructional	350,000	165,000	400,000	900,000	150,000	-	400,000	2,365,000	53.93
Self-Supporting	400,000	350,000	610,000	60,000	200,000	-	400,000	2,020,000	46.07
Total	750,000	515,000	1,010,000	960,000	350,000	-	800,000	4,385,000	100.00
Lewis and Clark									
Instructional	-	210,000	3,800,000	600,000	1,000,000	-	-	5,610,000	59.18
Self-Supporting	2,270,000	-	600,000	-	1,000,000	-	-	3,870,000	40.82
Total	2,270,000	210,000	4,400,000	600,000	2,000,000	-	-	9,480,000	100.00
Linfield									
Instructional	450,000	-	-	-	-	500,000	-	950,000	59.38
Self-Supporting	-	150,000	-	100,000	250,000	150,000	-	650,000	40.62
Total	450,000	150,000	-	100,000	250,000	650,000	-	1,600,000	100.00
Marylhurst									
Instructional	-	-	1,000,000	350,000	-	1,000,000	-	2,350,000	53.92
Self-Supporting	-	1,108,000	-	450,000	-	450,000	-	2,008,000	46.08
Total	-	1,108,000	1,000,000	800,000	-	1,450,000	-	4,358,000	100.00
Mt. Angel									
Instructional	-	-	-	1,000,000	-	400,000	-	1,400,000	44.22
Self-Supporting	-	-	436,000	-	430,000	-	830,000	1,696,000	54.78
Total	-	-	436,000	1,000,000	430,000	400,000	830,000	3,096,000	100.00

Pacific									
Instructional	-	1,230,000	-	-	600,000	-	925,000	2,755,000	59.79
Self-Supporting	925,000	928,000	-	-	-	-	-	1,853,000	40.21
Total	925,000	2,158,000	-	-	600,000	-	925,000	4,608,000	100.00
Reed									
Instructional	-	1,050,000	-	250,000	-	-	-	1,300,000	27.08
Self-Supporting	1,750,000	-	1,750,000	-	-	-	-	3,500,000	72.92
Total	1,750,000	1,050,000	1,750,000	250,000	-	-	-	4,800,000	100.00
U of Portland									
Instructional	-	-	2,764,500	-	744,722	450,000	-	3,959,222	41.66
Self-Supporting	1,995,500	5,000	10,000	1,735,000	-	-	1,800,000	5,545,500	58.34
Total	1,995,500	5,000	2,774,500	1,735,000	744,722	450,000	1,800,000	9,504,722	100.00
Willamette									
Instructional	-	750,000	612,000	-	-	-	-	1,362,000	24.08
Self-Supporting	230,000	935,000	460,000	700,000	750,000	720,000	500,000	4,295,000	75.92
Total	230,000	1,685,000	1,072,000	700,000	750,000	720,000	500,000	5,657,000	100.00
TOTAL - ALL INSTITUTIONS									
Instructional	800,000	3,405,000	8,576,500	3,900,000	2,494,722	2,350,000	1,925,000	23,451,222	45.70
Self-Supporting	7,570,500	5,600,000	3,866,000	3,045,000	2,630,000	1,620,000	3,530,000	27,861,500	54.30
Total	8,370,500	9,005,000	12,442,500	6,945,000	5,124,722	3,970,000	5,455,000	51,312,722	100.00

Source: Independent colleges and universities

4. Determining additional space needs for each institution from enrollment projections, the space inventory, space-use studies, standards of space use established by the board, obsolescence of existing buildings, and functions of the institution.

5. Preparing institutional physical plant project lists three bienniums in advance with projects for the first biennium listed in order of priority.

6. Compiling a system-wide priority list for the biennium immediately ahead, being mindful of the degree to which the board's standards are met at the several institutions, rates of growth, institutional functions, obsolescence, and exercising such subjective judgments as may appear appropriate.

Capital construction projects involving state funds are reviewed on at least six levels - by the institutional executives, the board's office staff, the Board of Higher Education, the Department of Finance and Administration, the Ways and Means Committee of the Legislature, and the Emergency Board.

Provision of Student Housing at State System Institutions

The provision of housing for students by state-supported colleges and universities normally is based upon one or both of the following assumptions:

1. Institutionally owned and operated student residence halls can provide experiences essential to the educational objectives of the institution. Institutions which subscribe to this point of view and implement it fully will provide residence halls in sufficient quantity to require most students to live in a residence hall for a specified portion of the college years. Normally, exceptions are made for married students, for students residing at home, and for special cases.

2. Student housing is provided, primarily, to enable an institution to serve students whose homes are beyond the institution's commuting range. Since it is not feasible to establish institutions providing the full range of educational opportunities within commuting distance of all communities in the state, it is essential that student housing be provided at those institutions designed to serve students beyond the commuting range.

The Board of Higher Education bases its overall planning primarily on the second of the two assumptions; namely, that the provision of some student housing is essential if a variety of educational opportunity is to be extended to students from all geographical regions in Oregon. The board recognizes that some institutions will need to enroll more commuting students than others; some institutions will be located in communities better able than others to absorb students in private housing; some institutions will have more fraternity and sorority housing than others; and some institutions will enroll a large proportion of undergraduate, and hence younger, students than others. Furthermore, some institutions will be able to assemble greater financial capacity than others. The percentage of the student bodies, therefore, to be housed in residence halls and other institutionally owned housing varies and is determined independently for the several institutions by the Board of Higher Education.

The degree of self-support carried by student housing varies widely among colleges and universities - and has changed markedly in the state system during recent years. Practice has swung from partial self-support and self-liquidation (a few years ago) to nearly total self-support and self-liquidation at present. A few years ago utility costs of student housing were absorbed in the unrestricted institutional budgets; land for sites for student housing was acquired with state funds; and building fees charged all students were used for debt service. Currently, however, charges to occupants cover all of these operational and capital costs. The only expenses related to housing not being charged to student housing operation are indirect administrative costs, and some general institutional services such as watchmen and police and grounds maintenance.

The board has provided residence halls for single students at all institutions in the state system with the exception of Portland State College, an institution established to serve the needs of students residing in the Portland metropolitan area. The institutions are expected to maintain services and establish regulations which will permit residence hall living to contribute to the institution's educational objectives.

The board also provides, at the five multi-purpose institutions having broad regional or state-wide responsibilities (UO, OSU, SOC, OCE, EOC), some housing for married students.

State Board of Higher Education's Capital Construction Program for the 1967-1969 Biennium

The State Board of Higher Education approved a capital construction program for the 1967-1969 biennium at its July 1966 meeting. The proposed program, in recommended priority listing, is presented in Table 82, pp. 374-377. The total program includes 79 construction projects for the system's seven institutions, two professional schools, and Division of Continuing Education, at a total estimated cost of $108,030,000. The largest portion of the program, $82,915,000, would be for educational and general plant construction, $73,565,000 from state funds and offsets, and $9,350,000 from specific federal grants. The remaining $25,115,000 would be used for auxiliary enterprises construction needs, chiefly dormitories.

Needs for the 1969-1971 and 1971-1973 bienniums have been tentatively estimated as follows:

	1969-1971	1971-1973
Educational and General Plant	$78,040,000	$53,820,000
Auxiliary Enterprises	26,805,000	21,105,000

Capital Construction Policies of the State Department of Education for Community Colleges

ORS 341.925 stipulates that the state shall participate in community college construction in amounts not to exceed 65 percent of the allowable project costs including fees, construction costs, equipment, and purchase of existing buildings.

The total amount of state funds needed any biennium to support community college capital construction at 65 percent, and the amount the individual community college is eligible to receive according to current State Board of Education policy, is two-thirds the full-time student enrollment anticipated three years hence multiplied by $1,300. (The $1,300 figure is 65 percent of $2,000, the estimated cost of 115 square feet of constructed and equipped space.)

Oregon statutes providing for state participation in the construction of community college facilities include stipulations empowering the state to exert considerable control over the project in which it participates. The law provides that:

1. State funds may not be expended for acquisition of site, student housing, or spectator facilities for athletics.

2. Subject to approval of the Emergency Board, the state shall establish criteria for allowable space and facilities.

TABLE 82

STATE BOARD OF HIGHER EDUCATION PRIORITY LISTING OF CAPITAL CONSTRUCTION, LAND PURCHASES, AND ARCHITECTURAL/ENGINEERING PLANNING DURING 1967-1969

(Cost estimates in Thousands of Dollars)

	Project	State Funds & Offsets	Specific Federal Grants	Self Liquidating	Other	Total Project Amount
	1	2	3	4	5	6
1	PSC - College Services Building	$ 980	$	$	$	$ 980
2	PSC - State Hall, N.E. and S.W. Units	3,785				3,785
3	PSC - Pedestrian Traffic, Cooling & Improvements to South Park Hall	130			75	205
4	SOC - South Campus Central Heating Plant Addition	170			165	335
5	SOC - Old Library-Classroom Building Remodel	525				525
6	PSC - Science II	6,210		275	345	6,830
-	Various Land Purchases	240			260	500
7	OTI - Residence Hall Addition			1,230		1,230
8	SOC - Greensprings Dormitory Complex, Units C, D & E and Food Service Facilities, including land			1,900		1,900
9	UO - Science Building, Third Addition & Central Cooling	2,855	1,000			3,855
10	OSU - Bioscience Building	2,790	990			3,780
11	UO - Teaching Facilities: Women's Physical Education	1,460				1,460
12	OCE - Central Heating Plant Improvements	45			40	85
13	OCE - Science Building	1,715				1,715
-	Various Architectural and Engineering Planning (for 1969-1971 Projects and for Campus Planning)	600			200	800
14	UOMS- Teaching Hospital Addition	5,645				5,645
15	OSU - Administration Building	3,575		95		3,670
16	SOC - Fine Arts Building (Music), including land	1,360				1,360
17	PSC - Parking Structure II			1,165		1,165
18	UO - Classroom, Office, Teaching Center; Architecture & Allied Arts, and General Purpose Education	1,645				1,645
19	OSU - Computer Center	555				555
-	Various Land Purchases	240			260	500
20	OTI - Wells 4 and 6 Development with Loop Completion	75			30	105
21	OTI - Lecture Hall/Auditorium/Demonstration Facilities - Commons Addition	250		325		575
22	UOMS- New Cafeteria, including Remodeling of Existing Cafeteria and Business Office Space	100		325		425

TABLE 82 - (Continued)

Project	State Funds & Offsets	Specific Federal Grants	Self Liquid-ating	Other	Total Project Amount
1	2	3	4	5	6
23 EOC - Women's Physical Education Building Addition	$ 710	$	$	$ 145	$ 855
24 OSU - Utility Tunnel Extension	365				365
25 OSU - Forestry Building	2,365				2,365
26 OCE - Dormitory No. 7			700		700
27 OSU - Earth Sciences Building including land	1,725	695			2,420
28 OSU - Central Heating Plant Boiler	55			75	130
29 OSU - Cafeteria (Arnold Hall), including land			1,440		1,440
30 OSU - Residence Hall (Bloss Hall)			1,825		1,825
- Various Architectural and Engineering Planning	300			100	400
31 UO - Classroom, Office, Library Facilities: Law and General Purpose Educational	1,665	750			2,415
32 SOC - Greensprings Dormitory Complex, Units F, G, & H including land			1,550		1,550
33 UO - Administrative Services Building	2,230				2,230
34 OTI - Laboratory Building Addition	1,805				1,805
- Various Land Purchases	240			260	500
- Various Architectural and Engineering Planning	300			100	400
35 DCE - Office and Media Building Corvallis	725				725
36 EOC - Relocation and Expansion of Central Heating Plant	295			240	535
37 EOC - Education Building	820				820
38 PSC - Science III	5,285		285		5,570
39 UO - Laboratory Building for Marine Biology Station, Charleston	500	250			750
40 UO - Charleston Dormitory for Marine Biology Station			325		325
41 OSU - Married Student Housing, including land			1,470		1,470
42 OSU - Yaquina Bay Dormitory			145		145
43 SOC - Married Student Housing, including land			395		395
44 OSU - Agricultural Sciences Building	1,130				1,130
45 OSU - Library, First Addition	1,735				1,735
- Various Architectural and Engineering Planning	240			80	320
46 SOC - Britt Student Center Addition				1,295	1,295
47 SOC - Education Building, including land	1,285				1,285

TABLE 82 - (Continued)

Project	State Funds & Offsets	Specific Federal Grants	Self Liquidating	Other	Total Project Amount
1	2	3	4	5	6
48 UO - Men's Physical Education Facilities: Tennis & Handball Courts	$ 140	$	$	$ 135	$ 275
49 UOMS- Mental Retardation Demonstration Center	1,520	2,740			4,260
50 UO - Clinical Service Building for Mental Retardation	680	965			1,645
51 UOMS- Central Incinerator Plant	75				75
52 SOC - Physical Plant Building, including land	630				630
53 UO - Physical Plant: Warehouse and Service Building	225				225
54 OSU - Physical Plant Complex	2,060				2,060
55 UO - Batcheller Hall Remodeling	485				485
56 UO - Classroom, Office, Teaching Center: Southwest Campus; Behavioral Science	2,215	425		190	2,830
57 UO - Music Building Addition	905				905
58 UO - Office, Teaching Addition: School of Education	935	330			1,265
59 OSU - Production Technology Facilities	2,180				2,180
60 UOMS- Alterations to Fifth Floor Medical Science Building	280				280
61 UO - Addition to Biological and Physical Sciences	1,795	1,000		190	2,985
62 OSU - Residence Hall Quadrangle Remodeling			140		140
63 UO - Animal Laboratory	205	205			410
64 UO - Dormitory Administration and Recreation Center			735		735
65 UO - Dormitory and Kitchen			2,150		2,150
66 OSU - Wetherford Hall Renovation and Remodeling			620		620
67 OSU - Residence Hall (Miller Hall)			1,115		1,115
68 OCE - Dormitory No. 8			725		725
69 UOMS- Completion of Ground Floor & Seventh Floor of Women's Residence Hall			90		90
70 PSC - College Center Expansion West				300	300
71 OSU - Student Health Service Expansion				100	100
72 OCE - Street Construction Project	65				65
73 SOC - Campus Landscaping	110				110
74 OTI - Parking Lot 4 and Extension of Roads B and D	80		50		130
75 OTI - Physical Education Facilities	70			30	100
76 OTI - Landscaping, Sidewalks	135				135
77 OSU - Purchase of Agricultural Research Facilities	50				50

TABLE 82 - (Continued)

Project	State Funds & Offsets	Specific Federal Grants	Self Liquid-ating	Other	Total Project Amount
1	2	3	4	5	6
78 EOC - Married Student Housing	$	$	$ 245	$	$ 245
79 UO - Parking Structure			1,180		1,180
TOTALS	$73,565	$9,350	$20,500	$4,615	$108,030

Source: Office of Business Affairs, State System of Higher Education, July 25, 1966.

3. State Funds may be used to match any federal funds available for building construction.

4. The state board shall review and approve preliminary project plans, detailed plans and specifications, bids, contract awards, and contract modifications.

5. On completion of the project, the State Board of Education shall review all project costs and make any resolution necessary in the amount of state participation.

Under current statutes, primary responsibility for establishment of new community colleges rests with the residents of qualifying areas. Once the college district is approved, construction of facilities can proceed no faster than district residents are willing to tax themselves to provide that portion of construction costs to be borne by them. The amount of state construction funds each district is eligible to receive, and the amount the board requests each biennium from the legislature, is determined by the State Board of Education. During the 1961-1963, 1963-1965, and 1965-1967 bienniums, these amounts were determined by a formula, just described, which was designed to reflect the board's policy that the state assist (up to the statutory 65 percent maximum) the community colleges in the construction of 115 square feet of space for each FTE day-time student.

April 6, 1966 the State Board of Education adopted revised policies for the development of master campus plans, space use objectives, and methods of financing instructional facilities. Procedures for implementing these policies have been defined. Such revised policies will apply to fiscal planning for the 1967-1969 biennium.

Community college boards may develop their own construction and utilization standards, knowing, however, that the amount of state participation will be determined by the State Board of Education. For example, a local district can supplement the state appropriation to provide more extensive facilities per student FTE than is authorized under the state participation formula.

The local board applying for any portion or all of its capital construction fund eligibility submits to the State Board of Education a long-range plan for development of the college, assurance that the district will provide a suitable site, evidence that the district can finance costs in excess of the amount of state funds for which the district is eligible, a general description of the proposed project, and such other information as the board may require.

In no biennium has the state appropriation equalled either the board's request to the legislature or requests of the districts for state funds.

During the 1961-1963 and 1963-1965 bienniums the State Department of Education prorated funds according to anticipated student enrollment. During 1965-1967 the department, responding to a suggestion of the legislature, has provided support, up to a district's total eligibility, on a first-come basis.

The revised policies adopted by the State Board of Education April 6, 1966 (recommendations in Chapter VIII, p. 225) would change the basis for state support for instructional facilities to 65 percent of $3,420 for the first 2,000 FTE students anticipated three years hence, plus 65 percent of $2,450 for each FTE student over 2,000, for each institution, until the institution has used 65 percent of its potential eligibility as determined by a potential FTE based upon average daily membership grades 9-12 on a projected basis.

The major portion of the community colleges' permanent campus construction is still to be accomplished.

The construction completed to date has been at the smaller institutions (Table 84, p. 379). From July 1, 1961 to June 30, 1965, $2,200,000 in state funds was allocated for community college construction. Of the $4,500,000 appropriated for the 1965-1967 biennium, all but $148,098 was encumbered by April, 1966. The allocation of funds appropriated to date for state participation in community college instruction is shown in Table 83, below.

TABLE 83

STATE FUNDS FOR COMMUNITY COLLEGE CAPITAL CONSTRUCTION
ALLOCATED AND ENCUMBERED, JULY 1, 1961
THROUGH APRIL 1, 1966

Institution	State Funds Allocated in 1961-1965	State Funds Encumbered in July 1965-April 1966
1	2	3
Blue Mountain	$ 301,258	$ 292,842
Central Oregon	474,767	149,333
Clatsop	175,000	169,434
Lane	---	---
Mt. Hood	---	---
Portland	69,230	2,989,670
Salem Tech.-Voc.	298,200	17,657
Southwestern Oregon	659,606	139,994
Treasure Valley	221,939	63,872
Umpqua	---	529,100
Totals	$2,200,000	$4,351,902

Source: Division of Community Colleges, State Department of Education.

Fall term, 1966 will find four community colleges, including the two largest - Portland and Lane - scheduling all of their classes in temporary facilities. Moreover, the State Department of Education expects new community colleges will be started in the Clackamas, Linn-Benton, Mid-Columbia, South-Central, and Washington County areas during the next three years. Four of these are expected to become fairly large.[1] One, Clackamas, has already been approved by the voters and may begin

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[1] The State Department of Education estimates potential enrollments of the community colleges as follows: Portland, 7,224; Lane, 4,105; Salem, 3,164; Clackamas, 2,760; Mt. Hood, 2,756; Washington County, 2,553; South-Central, 2,431; Linn-Benton, 2,381; Umpqua, 1,495; Southwestern, 1,367; Central Oregon, 1,101; Blue Mountain, 1,096; Mid-Columbia, 875; Treasure Valley, 734; Clatsop, 518.

TABLE 84

PHYSICAL PLANT INVENTORY OF PERMANENT FACILITIES
OREGON COMMUNITY COLLEGES
AS OF FEBRUARY 1966

Institution	FTE Fall 1965	Site Size Acres	Type Building	Year Comp.	Teach. Stations	Size In Square Feet	Total Cost (Equipped)
1	2	3	4	5	6	7	8
Blue Mountain	599	175					
Building I			Composite	1965	21	37,800	$ 890,691
Central Oregon	710	145					
Classroom B			Classrm.	1964	5	4,864)	370,649
Classroom C			Lab.	1964	4	4,864)	
Classroom D			Lab.	1964	2	4,864)	
Classroom A			Classrm.	1964	4	4,864)	257,165
Business & Admin.			Classrm.	1965	5	7,595)	
Library			Library	1966[c]	0	17,136	310,656[c]
Student Center			Service	1965	0	12,000	281,194
Clackamas							
Clatsop	501	41					
Old High School			Composite	1962(reim.)	17	70,250)	443,488
Technology			Shops	1962	3	3,600)	
Lane	1,371	100[a]					
Mt. Hood							
Portland	2,499	125					
Salem	682	20[b]					
Building I			Composite	1963	22	31,000)	1,079,000
Building II			Labs.	1963	5	5,500)	
Additions I & II			Shops	1965	6	5,700)	
Southwestern Oregon	681	125					
Lab. Building			Shops	1964	5	9,600)	334,760
Technical			Labs.	1964	6	11,200)	
Administration			Admin.	1965	2	8,400)	709,672
Science			Labs.	1965	6	9,800)	
Classroom			Classrm.	1965	12	9,600)	
Treasure Valley	755	90					
Golf Club House			Library	-	0		gift
Voc. Tech.			Shops	1965	2	10,700)	676,921
Classroom			Composite	1965	10	22,000)	
Umpqua	322	98					

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[a] Option on additional 48 acres.
[b] Option to add one tract of land; second tract under negotiation.
[c] Under construction - completion date and project costs are estimates.

limited operation during 1966-67. All four of these institutions will need permanent campus construction.

State Funds Required for Oregon Community College Capital Construction During 1967-1969 Biennium

The State Department of Education has prepared estimates of the state funds which will be required for community college capital construction during the next four bienniums, 1967-1969 through 1973-1975, based upon its new support formula (column 5, Table 85, below). As with the state system proposals, needs are estimated to be greatest for the 1967-1969 biennium, both because of a backlog of unmet requirements from the current, 1965-1967, biennium and because of anticipated large increases in enrollment, discussed in Chapter III.

TABLE 85

SUMMARY OF COMMUNITY COLLEGE CAPITAL OUTLAY PROGRAM
BIENNIUMS 1967-1969 THROUGH 1973-1975

Biennium	Adjusted Total Facility Cost[1]	Anticipated Federal Funds	Local Funds Required	State Funds Required
1	2	3	4	5
Existing Institutions[2]				
1967-69	$24,253,880	$2,104,294	$6,729,435	$12,497,521
1969-71	8,699,155	2,471,153	2,179,801	4,048,201
1971-73	5,970,775	2,965,383	1,051,887	1,953,505
1973-75	3,587,050	3,558,460	10,007	18,583
New Institutions[3]				
1967-69	13,132,760	1,402,862	4,105,464	7,624,434
1969-71	6,181,520	1,647,435	1,586,930	2,947,155
1971-73	5,963,650	1,976,922	1,395,355	2,591,373
1973-75	3,347,350	2,372,306	341,266	633,778
All Institutions				
1967-69	37,386,640	3,507,156	10,834,899	20,121,955
1969-71	14,880,675	4,118,588	3,766,731	6,995,356
1971-73	11,934,425	4,942,305	2,447,242	4,544,878
1973-75	6,934,400	5,930,766	351,273	652,361

[1] Figures for succeeding bienniums have been adjusted to reflect anticipated increases in construction costs.

[2] Blue Mountain, Central Oregon, Clatsop, Lane, Mt. Hood, Portland, Salem, Southwestern Oregon, Treasure Valley, Umpqua.

[3] Clackamas, Linn-Benton, Mid-Columbia, South-Central, Washington.

Source: Oregon State Department of Education, February 1966.

Recommendations

1. Post-high school institutions should strive to achieve maximum utilization of physical plant facilities. In this effort all institutions, public and independent, should make use of appropriate management tools and procedures, including adoption of utilization objectives, maintenance of utilization records, computer

scheduling where feasible, when this will contribute to maximum utilization, sharing of specialized facilities among neighboring institutions, and, where indicated, remodeling and rehabilitation of structures functionally obsolescent, but physically sound.

General classroom and teaching laboratory space requirements are determined almost entirely by the number of students, the extent to which these students use the classrooms and laboratories, and the degree to which this utilization can reasonably be increased. Any valid projection of future needs must be based on these three factors.

Needs for faculty offices, libraries, recreational facilities, other auxiliary space, and, in some institutions, housing, exist independent of instructional facility utilization. (However, space standards for these facilities can be established.) Even though an institution might absorb some added enrollment by increasing its utilization of classrooms and laboratories, it might not be able to provide the additional students with dormitory housing, have office space for new faculty required, or possess student service facilities adequate to the enlarged student body.

2. The committee endorses the request of the State Board of Education that a position be established in the State Department of Education to administer the community college capital construction program.

   The state is embarked on a program to build as many as 18 campus institutions over a very short period of time.[1] It can afford few mistakes. The natural enthusiasm of the local districts, and the difficulties in making realistic enrollment estimates, may lead to overbuilding of some facilities, at least over the short-range period. In the opinion of the committee this construction program should be undertaken only with the assistance of persons competent in space utilization analysis, facilities planning, and application of space standards. This specialized competency can best reside in the State Department of Education.

3. Planning and construction of new facilities, and remodeling and rehabilitation of existing ones, should be undertaken, as required, to accommodate authorized curricula and planned curricular development.

   Facilities serve curricula, not the reverse. Campus plans, therefore, should reflect directly a realistic appraisal of an institution's assigned responsibilities.

4. State appropriations for new facilities should be provided in response to separate priority listings developed by the State Board of Higher Education (for the state system) and by the State Board of Education (for the community colleges).

   The state of Oregon, in responding to the post-high school educational needs of its people, is engaged in two rather distinct enterprises: (1) through rehabilitation and new construction it is attempting to keep its present campuses under the State Board of Higher Education operationally capable of providing for the students who enroll at these institutions, and (2) it is building a new system of community colleges. In the opinion of the committee, the state can most clearly assess its respective responsibilities if it considers separately the expansion and modernization of established institutions, which serve an increasing number of Oregon young people who are able and desirous of completing their educations on a four-year campus, and the establishment and development of new two-year institutions, which extend post-high school educational opportunities to persons largely unserved by the four-year institutions.

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[1] Eighteen areas meet statutory criteria for formation of an area education district.

The State Board of Higher Education has established space utilization and space allocation standards and has prepared master campus plans. It maintains space inventories for each of its campuses, prepares regular utilization reports, and each biennium prepares a three-biennium capital construction program with priority listings, accompanied by detailed supporting data, for the biennium immediately following. In determining the projects to be constructed, the legislature knows the priority of need, as determined by the Board of Higher Education, why each project is required, and those buildings which will not be built if the entire building program proposed by the board cannot be funded.

Funds for community college construction during the 1961-1963 and 1963-1965 bienniums were prorated among eligible districts; during the 1965-1967 biennium the funds are being distributed on a first-come basis. Through 1965, state construction support has been provided or funds encumbered for only seven community colleges. The six campuses upon which some permanent construction has been completed are among the smaller institutions. On no campus have allocations of state funds totaled 65 percent of the institution's potential eligibility (as determined by the estimated potential enrollment). Construction of permanent facilities for the larger community colleges, both those currently in operation in temporary facilities and those which it is anticipated will be established, is yet to be accomplished.

The State Department of Education estimates that $32,314,550 in state funds will be required for the recommended community college building program for 15 campuses through 1975. Of this amount, $20,121,955 will be requested for the 1967-1969 building program. If the entire 1967-1969 program is funded, construction up to 65 percent of potential construction needs (as determined by the eligibility formula) can be completed on five community college campuses,[1] additional permanent facilities provided on three more,[2] and construction of facilities begun for the remaining seven institutions, three already established[3] and four expected to be established during the next three years.[4]

Although eligibility for community college state construction funds is determined by formula, allocation of funds is for projects. Identification of these projects, and the situations existing at the institutions for which they are proposed, including extent of utilization of already constructed facilities at established institutions, should make it possible for the State Board of Education to develop criteria upon which priorities could be established.

5. An outside committee, even one including representation from the independent colleges and universities of the state, cannot presume to advise the independent institutions concerning construction and use of their physical plants. The only legitimate interests of such a committee, in this case, can be (a) that the independent institutions remain healthy so that they may continue their unique services to higher education and (b) that ways be found to make the services and facilities of these institutions available to more Oregon students.

The committee addresses itself to the first concern in Chapter X. The second concern develops from the decreasing percentage of Oregon residents expected to enroll in Oregon's independent institutions. Fall term 1961-62, 11 independent institutions (Cascade, George Fox, Lewis and Clark, Linfield, Marylhurst, Mt. Angel, Pacific, Reed, University of Portland, Warner Pacific, and Willamette) enrolled 8,641 (head count) students; 5,055 of these were in-state students (58.5 percent) and 3,375 out-of-state (39.1 percent). The remainder, 211, were foreign students. By fall term 1964-65 the percentage of Oregon students had decreased to 53.3, although the number served increased to 5,241, because of increase in total enrollment. The best estimates of these independent institutions are that they will enroll 12,978 students in 1969-70, but only 6,580 (52.7 percent), will be Oregon residents. The decreasing percentage of Oregon students reflects not the desire of these institutions, but rather the difficulties many qualified students find in financing an independent college education. This problem, essentially one of making higher educational opportunity effectively available, is considered in Chapter IV.

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[1] Blue Mountain, Central Oregon, Clatsop, Southwestern, Treasure Valley.
[2] Salem, Portland, Umpqua.
[3] Lane, Mt. Hood, Clackamas.
[4] Linn-Benton, Mid-Columbia, South-Central, Washington.

6. Curricular planners must recognize that enrollments must be concentrated in groupings of optimum size if physical facilities are to show an acceptable level of utilization.

   This is especially important where the program of study requires specialized facilities which cannot be used for other class or laboratory work. Enrollment concentration is influenced by curricular policy, and curricular action should reflect awareness of, but not be controlled by, impact on physical plant resources. It is quite likely that in some professional and advanced science and technical areas one program of study can serve the population of the state for many years to come. Where this is true, opportunity for qualified students to enroll in the program should be equalized by providing adequate residence facilities, suitable financial aid, and, where feasible, developing preprofessional and joint or cooperative programs at non-major institutions. Arrangements to share specialized facilities among institutions, both public and independent, should be encouraged.

   Coordination of curricula in state-supported institutions is directed by statute. It is achieved in the state system through the State Board of Higher Education and for the community colleges by the State Board of Education. Chapter X describes cooperative arrangements among the independent institutions and suggests areas in which further cooperation should be considered.

7. New construction and remodeling of obsolete facilities must be carefully planned to support - even enhance - instructional activities.

   College and university buildings may be expected to serve for half a century or more. Remodeling is expensive. Whenever feasible, some capacity of flexibility should be designed into structures so that instructional innovations may be accommodated.

   Unless an institution's capital construction program is wisely planned, it may find its facilities dictating, rather than serving, instructional activities. Inflexibility in an instructional facility, when it generates poor utilization or premature obsolence, is an expensive "economy."

8. Institutions, both public and independent, should include in their capital construction budgets monies sufficient to exploit in some measure, however modest, the opportunities for individual enrichment intrinsic to the structural complexes of their campuses.

   The post-high school institution, notwithstanding the bent of its program, is in fact a cultural center. As such it is obligated to stimulate in those who identify with it a lively awareness of the many values, though possibly "non-utilitarian," which nevertheless are critical realities of our cultural heritage. Possible physical manifestations of these are many - the meaningful relationship of one building to others in an evolving organization, an abbreviated vista, a space that interrupts a visual rythmn, a reflecting pool, a piece of sculpture, a painting. All too often, however, the potential of such realities are deliberately ignored as we drive toward creation of student stations and "comfort" levels at the lowest possible dollar unit cost, and so lost never can be regained.

9. Adequate provision must be made for non-instructional services necessary when large numbers of people are brought together in a small area. The committee finds these auxiliary service facilities are being provided, for the most part fairly adequately, by the independent institutions and institutions of the state system. Legal authority should be extended to community college districts to issue revenue bonds for the purpose of constructing student centers, bookstores, and other self-supporting student service facilities for which future users may reasonably pay. Institutions established as commuting institutions should provide student housing only if they are assigned responsibility for providing instruction for students whose homes are outside the commuting area.

Facilities for student services - including dormitories, athletic and recreational areas, parking facilities, food service, student bookstores, married student housing - may account for half of the physical facilities of an institution drawing a large portion of its students from outside its commuting area. The independent institutions in Oregon attract nearly half their enrollment from out of state. The University of Oregon and Oregon State University serve the entire state. The regions served by Eastern Oregon College, Southern Oregon College, and Oregon College of Education are too large to permit more than a portion of the student body to commute. Housing, of course, bears a crucial relationship to the ability of a residential institution to increase its enrollment. Adequate parking at minimum cost located within walking distance of campus facilities can be considered a reasonable expectation of the commuting students.

Portland State College was established by statute to be an urban college serving students in a small but densely populated area, the state's metropolitan center. The college is located near the core of the city so as to be easily accessible to students, who are expected to commute. The institution does not operate facilities for student housing, but does seek to provide needed student parking.

There have been suggestions that Portland State College, as it nears university status, should provide dormitory housing (1) in recognition of the fact that a portion of its students do not live at home but rather rent private housing near the PSC campus, and (2) so that PSC may assume state-wide responsibilities, rather than tri-county metropolitan area responsibilities.

The committee notes that with the exception of the Middle East and Central European certificate programs, the state does not require undergraduate students to move to Portland to obtain a program in the subject area of their choice. Since the state provides instruction similar to that offered at PSC (with the exceptions noted) at one or more of its residential institutions, it is under no obligation to increase the difficulty of providing an adequate physical plant for Portland State College fast enough to keep pace with rapid enrollment growth and expansion of curricular programs by encouraging attendance of students from outside the metropolitan area. Students who could commute but live in private housing near campus by choice should be served by private housing.

As discussed in Chapter VIII, pp. 247-248, limited dormitory construction should be permitted at those community colleges serving districts too large geographically to permit all students residing in the district to commute. Some housing may be desirable at those community colleges offering vocational-technical programs not elsewhere available. However, circumstances warranting construction of student housing must be carefully delineated if competitive out-of-district recruiting is to be discouraged.

Commuting students need some student service facilities. These students come to a campus and remain all day. There are no adjacent living quarters to serve their needs for food service, study space, and campus social experience. These services are provided at Portland State College. At the community colleges, initially, the demand for local funds for land acquisition and required participation in construction of instructional facilities precludes the development of service facilities by the local district. Funds from other agencies or levels of government are not available for this purpose. Revenue bond authority would provide a way for the community colleges to acquire service facilities, as we have suggested in this recommendation (9).

10. Increases in the instructional capacity of classrooms and laboratories, whether through increased utilization of present construction or new construction, are accompanied by need to provide offices for the increased numbers of faculty required to handle the added instructional load, library facilities for the larger student body, and, as required, facilities for increases in administrative, clerical, and service staff. Space standards can and should be developed for these instruction-related facilities.

When sharp enrollment increases occur, the immediate need is for beds in dormitories (at residential institutions) and seats in the classrooms and laboratories. But capacity of these facilities cannot be increased indefinitely without corresponding increases in the supporting instructional facilities.

The provision of adequate library facilities is particularly critical. The explosion of knowledge has put a tremendous burden on libraries to acquire, catalog, and house needed resource materials. When nothing is done to provide more library space, books begin to crowd out the students. When the growing library resources are coupled with a growing student body, the most frequently recurring instructional space need may well be in the library.

Need for research facilities, especially important at institutions offering advanced undergraduate and graduate instruction, is discussed in Chapter VI.

11. The state of Oregon should seek planning funds as may become available under the Higher Education Act of 1966 to finance a comprehensive study of Oregon's post-high school physical facilities.

This recommendation is not intended to signify that the committee feels the planning that has been and is being undertaken by those responsible for the development of physical facilities has been inadequate to the needs, but rather that, in view of the large sums required to finance capital construction programs projected for the next several bienniums, a comprehensive study, adequately staffed and coordinated under the auspices of a representative state-wide educational body, might well provide information and ideas which would assure that those responsible for higher education capital construction programs would continue to have the advantage of the best in long-range planning. The Higher Education Act of 1966, as passed by the House of Representatives, provides substantial money for just such a state-wide planning study as is here proposed.

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CHAPTER XV

State Financial Resources

This chapter examines the fiscal basis for support of higher education in Oregon, the amount of support, the burden it places upon people of the state, and the interest the legislature has expressed in this matter as measured by the share of funds under its control allocated to such support.

How Big Is the Job?

The size of the job to be done may be described in terms of the "college-age pool," i.e., the number of persons in the population between ages 18 and 24. This is the age group from which come most of the persons enrolled in colleges and universities. The proportion of the population represented by this age group is significant for two reasons: (1) the larger the number of students to be educated, the greater the financial load on the state, and (2) the larger the number of persons in school, the smaller the number from which come most of the taxpayers of the state.

Table 86 shows the Oregon college age population as a percentage of total population for the years 1960 through 1965 and for 1970. It will be noted that the percentage of the population in this critical age bracket has increased each year during the past five years. It will continue to increase so that in 1970 people in age group 18-24 will comprise an estimated 11.21 percent of the population.

TABLE 86

OREGON COLLEGE-AGE POPULATION AS A PERCENTAGE OF TOTAL POPULATION
1960 through 1966

Year 1	Total Population[1] 2	College Age Population[1] 3	College Age Population as a Percentage of Total Population 4
1960	1,768,687	140,337	7.93%
1961	1,816,345	147,738	8.13
1962	1,825,138	155,721	8.53
1963	1,856,190	162,837	8.77
1964	1,906,000	169,484	8.89
1965	1,972,150	182,568	9.26
1970	2,058,822	230,899	11.21

[1] Source: Oregon State Board of Census.

How Does Oregon's "Load" Compare with That of Other States?

The post-World War II babies are now entering the college age group, and their numbers are no surprise. It may be asked, however, whether composition of Oregon's population is such that the 18-24 age group represents a disproportionate share of the total population and, thereby, places a correspondingly disproportionate burden on taxpayers of the state.

Table 87 seeks to answer this question by expressing the July 1964 college-age population as a percentage of total population for Oregon and for ten states with which Oregon may be considered comparable in terms of educational responsibility and effort. (The ten states were selected on the following criteria: (1) freedom from racial and economic problems, (2) percentage of students residing in the state enrolled in public institutions, (3) number of college students per thousand population, and (4) portion of residents attending college enrolled in institutions in their home state.)

Even when compared with states whose educational effort is adjudged equivalent, Oregon ranks ninth in terms of college-age population as a percentage of total population.

The range of percentages is so narrow, however, that differences among the states appear to lack significance. It may be concluded that none of these 11 states bears an overly heavy or overly light load.

TABLE 87

COLLEGE-AGE POPULATION AS A PERCENTAGE OF TOTAL POPULATION
JULY, 1964, FOR ELEVEN COMPARABLE STATES

State 1	Total Population[1] 2	College-Age Population[1] 3	College-Age Population as a Percentage of Total Population 4
Utah	973,000	107,000	11.0%
Colorado	1,936,000	211,000	10.9
Oklahoma	2,461,000	267,000	10.8
California	18,077,000	1,917,000	10.6
Arizona	1,550,000	164,000	10.6
Kansas	2,227,000	234,000	10.5
Washington	2,967,000	303,000	10.2
Nebraska	1,471,000	150,000	10.2
Oregon	1,881,000	188,000	10.0
Michigan	8,154,000	787,000	9.7
Minnesota	3,525,000	334,000	9.5

[1] U. S. Bureau of Census, Population Estimates, Series P-25, No. 326 (February 7, 1966), and No. 333 (March 30, 1966). College-age population estimated from total population figures.

The variance between Oregon figures for 1964 in Tables 86 and 87 results from differences in estimates of the college-age population furnished by the Oregon State Board of Census (Table 86) and U. S. Bureau of Census projections used in preparing Table 87.

During recent years the college-age population has increased at a rate faster than that of the total population. There is no way of knowing how long this trend will continue, primarily because birth rate projections are somewhat inexact.

What is the Trend in Enrollments in Oregon's Public Colleges and Universities?

As shown in Table 88, below, enrollments in Oregon's public colleges and universities have been increasing very rapidly, more than doubling in the nine years between 1956-57 and 1965-66. Table 7, Chapter III, p. 24, from which Table 88 was taken, shows that not only is Oregon entering a period of substantially larger numbers of persons in the college age pool, but that an increasing percentage of these persons are attending college. A follow-up study of the 1965 high school graduating class (reported in Table 34, Chapter V, p. 134) shows that 55.1 percent of the graduates were enrolled in college fall term 1965 with 42.7 percent in the state's publicly supported institutions. In 1961, 45.7 percent of the class enrolled in college, 39.8 percent in Oregon public institutions.

TABLE 88

ENROLLMENTS IN PUBLIC COLLEGES AND UNIVERSITIES IN OREGON - 1956-57 through 1965-66

Academic Year 1	State System[1] 2	Community Colleges[1] 3	Totals 4
1956-57	17,906	166	18,072
1957-58	19,498	158	19,656
1958-59	20,375	230	20,605
1959-60	20,925	202	21,127
1960-61	22,856	219	23,075
1961-62	27,037	1,560	28,597
1962-63	29,262	2,867	32,129
1963-64	30,564	3,390	33,954
1964-65	32,362	4,846	37,208
1965-66	37,390	7,439	44,829

[1] Enrollment figures are full-time-equivalent three-term average. Community college figures are reimbursable enrollments, not total enrollments.

What is Oregon's Ability to Pay for Higher Education?

Ability to pay is probably best measured by personal income. Personal income figures for Oregon are provided in two tables: the first, Table 89, p. 390, shows per capita state and local taxes in 1963-64 for the fifty states as a percentage of 1964 per capita income, and the second, Table 90, p. 391, shows the total state tax contribution to higher education in Oregon, as a percentage of personal income, during the most recent six bienniums.

Looking at Table 89, p. 390, we find that Oregon ranks fifteenth among the 50 states in personal income. It also is fifteenth in the amount paid per capita in state and local taxes. (The numbers in parentheses in columns 3 and 4 indicate ranking of states.) But, when the amount of taxes paid (column 3) is compared with personal income (column 2), Oregon drops to twenty-second place among the 50 states (column 4), leading to the conclusion that Oregon is a comparatively moderately taxed state.

TABLE 89

PER CAPITA STATE AND LOCAL TAXES IN 1963-64 FOR THE FIFTY STATES AS A PERCENTAGE OF PERSONAL INCOME, 1964[1]

State 1	Personal Income 2	State and Local Taxes 3	All Taxes as a Percentage of Personal Income 4
1. Delaware	$3,460	(14) $261.20	(49) 7.6%
2. Connecticut	3,281	(9) 272.88	(45) 8.3
3. Nevada	3,248	(3) 314.90	(25) 9.7
4. New York	3,162	(1) 351.46	(9) 11.1
5. Alaska	3,116	(27) 227.50	(50) 7.3
6. California	3,103	(2) 349.05	(7) 11.3
7. Illinois	3,041	(18) 256.61	(42) 8.4
8. New Jersey	3,005	(20) 253.03	(42) 8.4
9. Massachusetts	2,965	(5) 283.17	(27) 9.6
10. Maryland	2,867	(22) 241.32	(42) 8.4
11. Michigan	2,755	(8) 274.38	(22) 10.0
12. Ohio	2,646	(33) 218.65	(45) 8.3
13. Washington	2,635	(7) 277.20	(20) 10.5
14. Hawaii	2,622	(11) 272.01	(18) 10.6
15. Oregon	2,606	(15) 260.97	(22) 10.0
16. Pennsylvania	2,601	(30) 225.23	(40) 8.7
17. Missouri	2,600	(36) 209.11	(47) 8.0
18. Colorado	2,566	(10) 272.12	(18) 10.6
UNITED STATES	2,566	249.75	9.7
19. Indiana	2,544	(23) 238.91	(29) 9.4
20. Rhode Island	2,514	(26) 233.04	(30) 9.3
21. Wisconsin	2,490	(4) 295.20	(2) 11.9
22. Wyoming	2,441	(12) 266.21	(15) 10.9
23. New Hampshire	2,377	(38) 207.22	(40) 8.7
24. Iowa	2,376	(16) 259.47	(15) 10.9
25. Minnesota	2,375	(6) 281.84	(2) 11.9
26. Nebraska	2,349	(35) 214.40	(33) 9.1
27. Kansas	2,346	(13) 261.75	(8) 11.2
28. Montana	2,252	(17) 256.87	(4) 11.4
29. Florida	2,251	(32) 220.55	(24) 9.8
30. Virginia	2,239	(43) 174.34	(48) 7.8
31. Arizona	2,233	(19) 253.74	(4) 11.4
32. Texas	2,188	(40) 198.54	(33) 9.1
33. Utah	2,156	(24) 237.47	(13) 11.0
34. North Dakota	2,133	(25) 237.31	(9) 11.1
35. Maine	2,132	(34) 216.20	(21) 10.1
36. Vermont	2,119	(21) 242.21	(4) 11.4
37. Oklahoma	2,083	(39) 202.56	(25) 9.7
38. New Mexico	2,041	(29) 225.60	(9) 11.1
39. Idaho	2,020	(31) 222.46	(13) 11.0
40. West Virginia	1,965	(41) 187.16	(28) 9.5
41. Georgia	1,943	(44) 173.71	(36) 8.9
42. North Carolina	1,913	(42) 175.54	(31) 9.2
43. South Dakota	1,879	(28) 226.56	(1) 12.1
44. Louisiana	1,877	(37) 208.62	(9) 11.1
45. Tennessee	1,859	(45) 168.99	(33) 9.1
46. Kentucky	1,830	(46) 163.65	(36) 8.9
47. Alabama	1,749	(47) 156.22	(36) 8.9
48. Arkansas	1,655	(49) 151.57	(31) 9.2
49. South Carolina	1,655	(50) 145.57	(39) 8.8
50. Mississippi	1,438	(48) 153.96	(17) 10.7

[1] Source: National Education Association, Rankings of the States, (Research Report 1966-R1; Washington, D. C.: NEA, 1966), pp. 32, 39.

TABLE 90

CONTRIBUTIONS FROM STATE TAX FUNDS TO PUBLICLY SUPPORTED HIGHER EDUCATION COMPARED WITH GROSS PERSONAL INCOME FOR OREGON FOR SIX BIENNIUMS

Biennium	Total Personal Income of Oregonians[1] (In Millions)	Contribution from State Tax Funds[2] (In Thousands)		Total State Tax Contribution to Higher Education as a Percentage of Personal Income
		OSSHE	Community Colleges	
1	2	3	4	5
1963-1965	10,224	82,167[3]	2,770[3]	0.83%[3]
1961-1963	8,907	79,028	1,955	0.91
1959-1961	8,019	67,975	-	0.85
1957-1959	7,369	54,847	-	0.74
1955-1957	6,781	39,882	-	0.59
1953-1955	6,076	33,711	-	0.55

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[1] Source: U. S., Department of Commerce, Office of Business Economics, Survey of Current Business, Vol. XLVI, No. 4 (April, 1966), p. 10. Figures supplied for fiscal 1965 are preliminary.

[2] Source: Governor's Biennial Budget Reports through 1961-1963, Department of Finance and Administration and State Treasurer's Office, 1963-1965.

[3] State of Oregon partially changed its method of financing construction from appropriation to general obligation bonds.

TABLE 91

RELATIONSHIP OF CONTRIBUTION FROM STATE TAX SOURCES TO ALL STATE FUNDS AND TO PUBLICLY SUPPORTED HIGHER EDUCATION IN OREGON FOR SIX BIENNIUMS

Biennium	Contribution from State Tax Sources (In Thousands)		Percentage of Total Contribution Represented by Higher Education
	Total - All State Funds	Total - OSSHE and Community Colleges	
1	2	3	4
1963-1965	373,644	84,937	22.7%
1961-1963	366,228	80,983	22.1
1959-1961	313,331	67,975	21.7
1957-1959	281,979	54,847	19.5
1955-1957	221,847	39,882	18.0
1953-1955	192,884	33,711	17.5

How Well Does Oregon Support Higher Education?

In Table 90, p. 391, contributions from state tax funds to higher education for the most recent six bienniums are expressed in terms of percentage of total personal income. Table 91 relates the contribution to higher education to the total contribution from state tax sources to all state funds. These two tables show that there has been a rather marked increase in both the percentage of personal income and the percentage of the state's tax income that has been devoted to higher education. These figures show that Oregon is responding to the challenge of greatly increased numbers of students with a steadily increasing effort to provide them with educational opportunity.

Are Per Student Costs Increasing?

In view of higher salaries, higher equipment costs, and rises in other costs experienced over the past 12 years, it would be reasonable to expect that a corresponding increase in the per student cost of higher education would have occurred. Table 92, below, deals only with the operating budgets of state system institutions and public services, and only with that portion of the operating budgets over which the legislature has control, expressed on a per student basis. On this basis, we find tax contributions per student have remained fairly constant over a 12-year period, with the increase from the 1953-1955 to the 1963-1965 biennium of only 10.6 percent. Expressed in terms of constant dollars (column 5), the contribution per student has decreased 5.1 percent. From this we may conclude that increases in general fund appropriations for state system operating budgets reflect (1) increased numbers of students and (2) inflation, and are not due to a real increase in per student costs.

Summary

Even though the contribution from state tax sources to higher education has been going up, and the proportion of the tax load directed toward higher education has been going up, Oregon is still spending a relatively small proportion of its total personal income for higher education.

TABLE 92

STATE TAX CONTRIBUTION TO OPERATING BUDGETS OF OREGON STATE SYSTEM INSTITUTIONS COMPARED WITH ENROLLMENTS FOR SIX BIENNIUMS

Fiscal Year Ending 1	Total 3-Term FTE Enrollment in System Institutions 2	State Gen. Fund Operating Appropriations (In Thousands)[1] 3	Contribution Per Student 4	Contribution Per Student in Terms of Constant Dollars 1957-1959 Base 5
1963-1965	62,926	$77,833	$1,237	$1,135
1961-1963	56,299	68,884	1,224	1,154
1959-1961	43,781	57,975	1,324	1,277
1957-1959	39,873	47,353	1,188	1,175
1955-1957	32,449*	33,756*	1,040*	1,079*
1953-1955	25,388*	28,375*	1,118*	1,196*

*Excludes OTI

[1] Includes campus institutions and statewide public services.

CHAPTER XVI

State-Level Coordination and Administration of Post-High School Education

Oregon has had long and extensive experience with coordination of educational planning at the post-high school level. Out of this experience has emerged the present design for coordination which is briefly described below.

1. Public four-year institutions. For more than thirty years Oregon has had a unified state system of higher education governed by the Oregon State Board of Higher Education. The board coordinates the planning and administration of all aspects of the public four-year institutions, a medical and a dental school (constituent parts of the University of Oregon), a technical institute, and a division of continuing education. The chief executive of the state system is the Chancellor, who is appointed by the board and serves at its pleasure. The Chancellor's staff consists of three vice chancellors (academic affairs, business affairs, and continuing education), director of the budget, an assistant chancellor for public services, and other staff officers as shown in Figure XXV.

2. Community colleges. Though each of the community colleges is governed by its own board, these colleges operate under the general oversight of the State Board of Education (Figure XXVI), which has, among other powers, that of exercising approving power over the tuition and fees proposed by the community colleges and over requests for authorization to award certificates and associate degrees.

   The State Board of Education also plays a significant role in the allocation of state funds in support of community college building projects. The board is required by law to receive from the applicant district its long-range plans for the development of the college, and the board is required to determine the priorities in the allocation of funds among districts.

   State reimbursement for community college courses is made upon the certification of the State Superintendent of Public Instruction to the Secretary of State. No reimbursement is allowable for any course taught which was not approved in advance by the state superintendent's office. It is at this point that the law provides for liaison between the State Board of Education and the State Board of Higher Education in the approval of community college courses and instructors.

   Under the law, until the community college is accredited by the Northwest Association of Secondary and Higher Schools, the college transfer courses the college wishes to offer, and the instructors it proposes to employ to offer the courses, must be approved by the State Board of Higher Education. Request for approval of these courses is made to the State Board of Higher Education through the state superintendent's office. The latter's certification of the college transfer courses for reimbursement is based upon their approval by the State Board of Higher Education.

3. Proprietary schools. Some fifteen different types of proprietary schools are licensed upon the recommendation of the State Board of Education.

FIGURE XXV

DEPARTMENT OF HIGHER EDUCATION ORGANIZATIONAL STRUCTURE

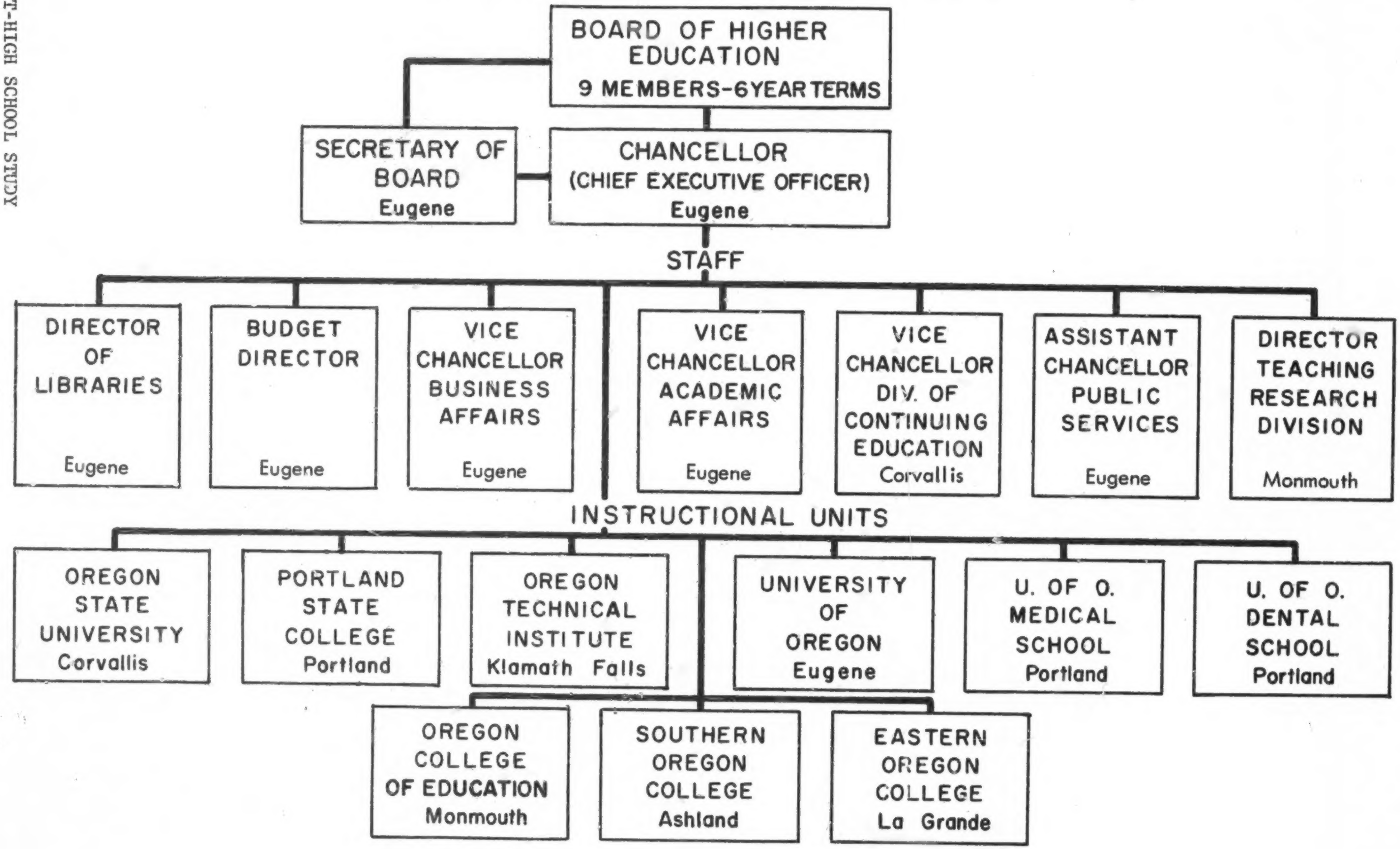
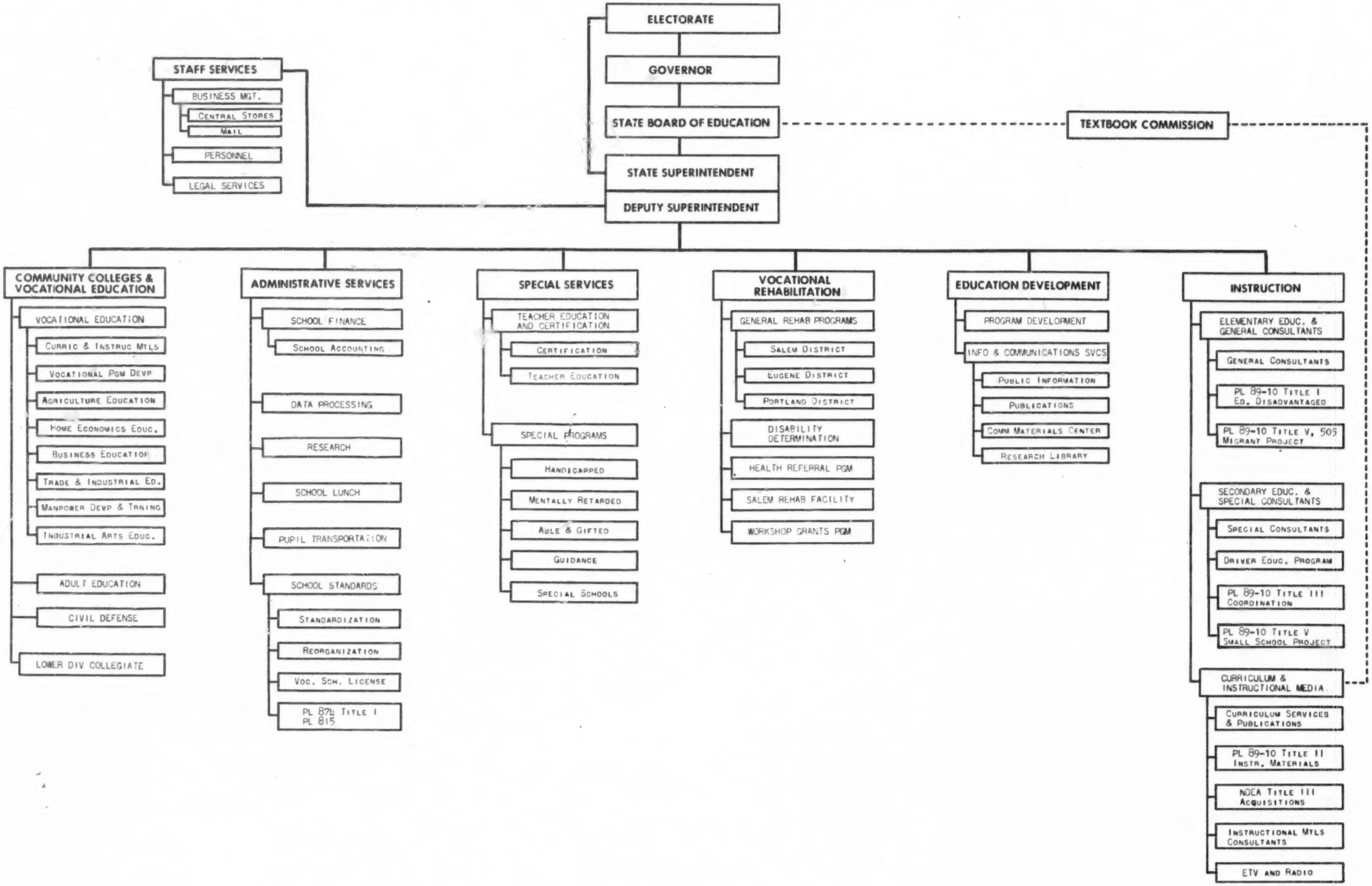

BOARD OF HIGHER EDUCATION
9 MEMBERS-6YEAR TERMS
SECRETARY OF BOARD
Eugene
CHANCELLOR
(CHIEF EXECUTIVE OFFICER)
Eugene
STAFF
DIRECTOR OF LIBRARIES
Eugene
BUDGET DIRECTOR
Eugene
VICE CHANCELLOR BUSINESS AFFAIRS
Eugene
VICE CHANCELLOR ACADEMIC AFFAIRS
Eugene
VICE CHANCELLOR DIV. OF CONTINUING EDUCATION
Corvallis
ASSISTANT CHANCELLOR PUBLIC SERVICES
Eugene
DIRECTOR TEACHING RESEARCH DIVISION
Monmouth
INSTRUCTIONAL UNITS
OREGON STATE UNIVERSITY
Corvallis
PORTLAND STATE COLLEGE
Portland
OREGON TECHNICAL INSTITUTE
Klamath Falls
UNIVERSITY OF OREGON
Eugene
U. OF O. MEDICAL SCHOOL
Portland
U. OF O. DENTAL SCHOOL
Portland
OREGON COLLEGE OF EDUCATION
Monmouth
SOUTHERN OREGON COLLEGE
Ashland
EASTERN OREGON COLLEGE
La Grande

FIGURE XXVI

ORGANIZATION OF THE OREGON DEPARTMENT OF EDUCATION


ELECTORATE
GOVERNOR
STATE BOARD OF EDUCATION
TEXTBOOK COMMISSION
STATE SUPERINTENDENT
DEPUTY SUPERINTENDENT
STAFF SERVICES
BUSINESS MGT.
CENTRAL STORES
MAIL
PERSONNEL
LEGAL SERVICES
COMMUNITY COLLEGES & VOCATIONAL EDUCATION
VOCATIONAL EDUCATION
CURRIC & INSTRUC MTLS
VOCATIONAL PGM DEVP
AGRICULTURE EDUCATION
HOME ECONOMICS EDUC.
BUSINESS EDUCATION
TRADE & INDUSTRIAL ED.
MANPOWER DEVP & TRNING
INDUSTRIAL ARTS EDUC.
ADULT EDUCATION
CIVIL DEFENSE
LOWER DIV COLLEGIATE
ADMINISTRATIVE SERVICES
SCHOOL FINANCE
SCHOOL ACCOUNTING
DATA PROCESSING
RESEARCH
SCHOOL LUNCH
PUPIL TRANSPORTATION
SCHOOL STANDARDS
STANDARDIZATION
REORGANIZATION
VOC. SCH. LICENSE
PL 874 TITLE I
PL 815
SPECIAL SERVICES
TEACHER EDUCATION AND CERTIFICATION
CERTIFICATION
TEACHER EDUCATION
SPECIAL PROGRAMS
HANDICAPPED
MENTALLY RETARDED
ABLE & GIFTED
GUIDANCE
SPECIAL SCHOOLS
VOCATIONAL REHABILITATION
GENERAL REHAB PROGRAMS
SALEM DISTRICT
EUGENE DISTRICT
PORTLAND DISTRICT
DISABILITY DETERMINATION
HEALTH REFERRAL PGM
SALEM REHAB FACILITY
WORKSHOP GRANTS PGM
EDUCATION DEVELOPMENT
PROGRAM DEVELOPMENT
INFO & COMMUNICATIONS SVCS
PUBLIC INFORMATION
PUBLICATIONS
COMM MATERIALS CENTER
RESEARCH LIBRARY
INSTRUCTION
ELEMENTARY EDUC. & GENERAL CONSULTANTS
GENERAL CONSULTANTS
PL 89-10 TITLE I ED. DISADVANTAGED
PL 89-10 TITLE V, 505 MIGRANT PROJECT
SECONDARY EDUC. & SPECIAL CONSULTANTS
SPECIAL CONSULTANTS
DRIVER EDUC. PROGRAM
PL 89-10 TITLE III COORDINATION
PL 89-10 TITLE V SMALL SCHOOL PROJECT
CURRICULUM & INSTRUCTIONAL MEDIA
CURRICULUM SERVICES & PUBLICATIONS
PL 89-10 TITLE II INSTR. MATERIALS
NDEA TITLE III ACQUISITIONS
INSTRUCTIONAL MTLS CONSULTANTS
ETV AND RADIO

4. Independent colleges and universities. The Oregon Independent Colleges Association is an avenue through which the independent colleges and universities maintain contact with each other and plan jointly, in some cases.

5. Educational Coordinating Council. The present Educational Coordinating Council is a successor to the Governor's Educational Coordinating Council, which was established in 1962 as a means of providing an avenue for voluntary cooperative planning by representatives of the State System of Higher Education, the State Department of Education, and the Governor's office.

Legislative Base of the Educational Coordinating Council. Because of the feeling that the council might be more effective if it had a legislative base, the 1965 Legislative Assembly provided such a base (ORS 351.270-351.295). ORS 351.270 provides that the members of the coordinating council shall be appointed by the Governor who is authorized by law to appoint "such number of members as he deems appropriate, to serve at his pleasure." The law further provides that ". . . a majority of the members shall be persons who are not employed by private or public institutions of higher education or by any private or public body engaged in educational activities within the scope of the council's statutory functions. The council shall be broadly representative of the public and of private and public institutions of higher education, including junior colleges, community colleges, and technical institutes in the State of Oregon."

Responsibilities of the Educational Coordinating Council. The law gives to the council three major charges, and one permissive responsibility. The law states that the council shall:

a. Coordinate, through advice to appropriate governing bodies, those educational functions which are related to more than one area of education, including but not limited to educational television, community colleges, and teacher preparation and certification.

b. Prepare and study plans for participation of institutions in this state in federal government programs of assistance to public and private nonprofit institutions of education relative to construction, rehabilitation, or improvement of academic and related facilities of institutions of education.

c. Undertake such studies in the field of education as may be developed by the council or as may be assigned by the Governor.

The council may apply for and accept gifts, grants, or services from or contract with nonprofit organizations, educational institutions, and other state or federal agencies, and may administer such funds and contracts.

Present Membership of the Council. The council is presently made up of six laymen and four employees of public and private educational agencies or institutions. Of the six laymen, two are members of the State Board of Education, two are members of the State Board of Higher Education, one is an employee of the Department of Finance and Administration, and the sixth layman is a citizen at large, having no other official connection with educational or governmental bodies. The four members associated professionally with education are: the Chancellor of the State System of Higher Education, the State Superintendent of Public Instruction, the President of Lewis and Clark College, and the President of Willamette University. The last-named individual is the current chairman of the coordinating council (1966).

Some Alternatives Suggested for Coordination of Education in Oregon

Experience with effective coordination of the public four-year colleges and universities gives rise to the question sometimes asked in Oregon as to whether the benefits of coordinated educational planning cannot be extended in some fashion from kindergarten to the university level. This question has been heard increasingly since the development in Oregon of an expanding system of community colleges, supported jointly by the state and the area education districts.

It has seemed to some in Oregon that deliberate efforts should be made, perhaps through a change in state-level educational organizational structure, to provide more coordination of the planning for community colleges and to provide some greater state oversight of the administration of the colleges.

Of the proposals for change in educational organizational structure at the state level, four are heard most frequently:

1. The abolition of the present lay boards (State Board of Higher Education and the State Board of Education) and the creation within the Governor's cabinet of a position to which the Governor would appoint an official of his own choosing as commissioner of education. The commissioner of education would have general oversight of education in Oregon from kindergarten through the university level. An advisory lay board would be established to advise with the commissioner of education.

2. The replacement of the two existing boards of education by a single state board of education having jurisdiction of all public education.

3. The addition of a third state board to assume oversight of the community colleges and to coordinate their planning and development.

4. Continuation of the two existing state boards of education and an educational coordinating council.

The Committee's Evaluation of the Alternatives

The Cabinet-Type State Education Organization

The committee recommends against the adoption of the cabinet-form state educational organization for a number of reasons:

1. It would not provide the assurance of continuity of educational policies that a lay board does, whose members are appointed for long, overlapping terms. Such continuity of educational policies is indispensable to the development of integrated, creative institutions.

2. Over the long haul and in the balance, the committee believes that neither a general executive, such as a governor, nor a technical specialist, such as a governor would appoint as commissioner of education, will prove as effective as a lay board in exercising the quasi-legislative responsibilities which the governance of education requires.

   The legislature should not and does not endeavor to enact detailed legislation governing all aspects of the operations of the schools and other public educational institutions. What the legislature wisely does is to pass enabling legislation and to give broad grants of power to agents who then act for and in behalf of the legislature and the people in the establishment and administration of schools and colleges. The interpretation of these broad grants of power and

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their translation into policies governing education in the state may be better left, the committee feels, in the hands of an experienced lay board than placed in the hands of a single elected official subject to all the vicissitudes of political life, or in the hands of a single technical specialist appointed by an elected official.

3. The cabinet-type organization would place education squarely in the political arena, even though development of effective institutions is dependent upon their being insulated as much as possible from such political influence. This is not to imply that education is not now already affected by political forces. Obviously it is. But it would be affected much less if governed by a lay board than if governed by a commissioner of education appointed by the Governor and serving at his pleasure.

   This preoccupation with freedom from partisan controls or influence is more than an educational shibboleth. It relates to the very fabric of the institutions of higher education. In the words of the Committee on Government and Higher Education:

   > . . . No other activity of the state involves such a multiplicity and complexity of interests as does a university, and no other exists so constantly in tension with established ideas. Thus it is that the activity of a university can be pursued only in an atmosphere of freedom and objectivity, its scholars beholden only to their own dedication to scholarship for the direction in which their findings lead them. It is their duty, as Socrates expressed it, to "follow where the argument leads."[1]

   The long tradition of lay governing boards in the United States is based upon the demonstrated capacity of such boards to protect these institutions of higher education from outside interference and yet give assurance that the institutions will satisfy the needs of the people of the state in the field of higher education.

The Single State Board of Education

The committee recommends against the creation of a single state board of education in Oregon to replace the existing two state education boards. It is the committee's view that the general nature of the responsibilities of the State Board of Higher Education and the State Board of Education are, in important aspects, quite different.

The State Board of Higher Education is the governing board for nine separate educational units. The State Board of Education, on the other hand, governs no institutions and no school districts. It does administer certain state responsibilities, such as the establishment of teacher certification standards and the administration of teacher certification regulations, the licensing of certain proprietary schools, the establishment of minimum standards for the public elementary and secondary schools of the state, and the administration of these standards. It has general oversight of the public elementary and secondary schools and the community colleges. But it does not govern them in the same sense that the State Board of Higher Education governs the institutions of the state system.

The members of the State Board of Higher Education are faced with all of the multifarious problems of higher education, ranging from critical academic problems relating to curricular allocations and curricular development in the state system to personnel policies, admissions standards, financing of education, and the problems of master campus planning, building usage standards, building construction priorities, and the like. And not for a single institution alone! - or for several institutions of the same type, but rather for nine institutions and one administrative agency (Division of Continuing Education) offering programs ranging all the way from technical programs leading to a two-year associate degree to programs leading to doctoral degrees and to post-doctoral work in a wide range of academic and professional fields.

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[1] The Committee on Government and Higher Education, The Efficiency of Freedom (Baltimore: The Johns Hopkins Press, 1959), p. 4.

It is the committee's view that the members of any single board created to replace the two existing boards would find that they could not effectively govern the nine educational institutions, as the State Board of Higher Education now does, and at the same time effectively handle the issues that the State Board of Education must deal with, without spending far more time on board duties than a nonsalaried member can afford. The alternatives would then be either to provide salaries for board members, enabling them to give more time to their duties, or to select board members from among those citizens who can afford to give full time to the board without remuneration, or to expect the board members to give less careful attention than they now do to the many diverse issues upon which they would be required to act. In the judgment of the committee none of these alternatives would enhance education in Oregon.

A Third Board for Oversight of Community Colleges

The suggestion that a third state board be created to assume oversight of the community colleges stems from the desire for assurance that the development of the community colleges will proceed as a part of the coordinated development of post-high school education in Oregon.

The committee shares this interest in coordination. It believes, however, that the necessary first-level coordination can be provided by the State Board of Education, provided authority is given the board as recommended in this document.

Continuation of the Two State Education Boards and an Educational Coordinating Council

The committee believes that a continuation of the two existing state boards of education and an educational coordinating council, as hereafter discussed, is the most effective means of providing for the coordinated governance of education in Oregon.

Recommendations of the Committee

The committee makes the following recommendations as to the coordination of:

1. Public four-year institutions.

   a. That the State Board of Higher Education continue its present role as the coordinating and governing body for the state's four-year institutions, including also the Medical and Dental schools, the technical institute, and the Division of Continuing Education.

   b. That the Oregon State Board of Higher Education be given the title Oregon State Board of Regents to make easier the differentiation of the state board having responsibility for public four-year colleges and universities from the state board having primary responsibility for elementary and secondary education and the community colleges.

2. Community colleges.

    a. That the State Board of Education be given responsibility for developing enforceable policies for the guidance of the community colleges relating to such matters as: minimum standards of curriculum, physical plant, library resources, teacher qualifications, class size, financial administration.

    b. That the State Board of Education be empowered to determine the nature of the data to be maintained and reported periodically to the State Board of Education as the basis for a continuing analysis of the operation of the community colleges.

    c. That state funds for the support of community colleges be appropriated to the State Board of Education for distribution in accordance with policies developed by the legislature and the state board to reflect and protect the state's interest in the colleges.

    d. That the State Board of Education be empowered to withhold state funds from any community college which, in the board's opinion, is in violation of the aforementioned policies.

    e. That until they are accredited by the Northwest Association of Secondary and Higher Schools, community colleges continue to be required by law, as at present, to secure the approval of the State Board of Higher Education for any lower-division college transfer courses they desire to offer, and for instructors for such courses.

    f. That the legislature be guided by the recommendations of the appropriate state education board and the advice of the Educational Coordinating Council as to when and where additional public post-high school institutions should be established.

3. All public and private education.

    a. That there be created by legislative enactment an enlarged educational coordinating council, giving wider representation to educational agencies in Oregon as set forth below.

    b. That the Educational Coordinating Council consist of 18 members as follows:

    Four representing public higher education - Chancellor of the State System of Higher Education as a permanent member, a member of the State Board of Higher Education, and two presidents of state system institutions, selected by the state system presidents to serve four-year terms.

    Four representing the community colleges - State Superintendent of Public Instruction as a permanent member, a member of the State Board of Education, and two presidents of community colleges, selected by the presidents of community colleges, to serve four-year terms.

    Three representing the independent colleges - Two presidents and a trustee of an independent college selected by the presidents of the independent colleges and universities to serve four-year terms.

    One representing the proprietary schools - The head of one of the proprietary schools, selected by the membership of the association of proprietary schools for a four-year term.

    Two representing elementary and secondary education - Two administrators representing elementary and secondary education, to be appointed by the Oregon Association of School Administrators for four-year terms.

Four representing the citizenry-at-large - Four citizens appointed by the Governor for four-year terms.

The terms of the members of the council, except for the Chancellor and the state superintendent, should be staggered to provide stability and continuity. Initial terms should be determined by lot.

c. That the chairman of the council be selected at an annual election by the membership of the council. Only the four citizen members appointed by the Governor should be eligible to serve as chairman.

d. That an executive secretary and staff be employed by the council. Appointment of the executive secretary should be for an indefinite term, renewable each year. The executive secretary should be empowered to employ staff members, with the concurrence of the council.

e. That funding of the work of the council be by legislative appropriation and such other funds as the council may wish to accept.

f. That the Educational Coordinating Council be an advisory, coordinating body and not an administrative or adjudicating body, except as provided in item g below. It is the hope of the committee that the coordinating council will exercise an imaginative and creative role in the further development of educational opportunities in Oregon, and that it will recognize its unique opportunity for leadership as the one agency in which there is representation from all segments of organized education in the state.

It is envisioned that the coordinating council would, among its responsibilities:

(1) Issue periodic evaluations of the status of the master plan for education beyond the high school, as viewed from the perspective of needs and resources. Such progress reports should be distributed to the Governor, the legislature, educational agencies and institutions, and to the public.

(2) Develop subsequent phases of the master plan.

(3) Gather and disseminate information concerning national trends in comprehensive planning.

(4) Coordinate the planning activities of those agencies and institutions responsible for education in Oregon.

(5) Encourage cooperative projects among the several educational agencies in the state, where such seem appropriate to the needs.

g. That the council act as the state commission to administer the grant provisions of federal acts relating to post-high school education and requiring a state agency for their administration.

h. That the Educational Coordinating Council continue and extend its use of subcommittees or advisory committees, adding to the existing ones as the needs of the council shall determine.

Advisory committees presently exist in the field of: (1) TV-radio education, (2) community colleges, (3) teacher education and certification, and (4) higher education facilities.

This present report on post-high school education recommends the appointment of advisory boards or councils in the following additional areas:

(1) Library development (Chapter XIII)
(2) Computer planning and usage (Chapter XIII)
(3) Cooperative projects (Chapter X)
(4) Continuing education (Chapter XI)
(5) Long-range planning (Chapter XVI).

The Education Assistance Commission (Chapter IV), which the present post-high school study recommends be established, will be to the council a useful source of advisory information concerning student financial aid in post-high school education, even though not officially an advisory committee of the council.

The Advisory Committee on Proprietary Schools (Chapter VII), which advises the State Superintendent of Public Instruction, could provide the Educational Coordinating Council with useful advisory information concerning the proprietary schools, though not officially an advisory committee of the council.

The committee believes that the interests of education would be well served if in the constitution there were recognition of the state's interest in post-high school education and if the State Board of Higher Education and the State Board of Education were given a constitutional base. The committee commends this view to the appropriate state officials when the revision of the constitution is under consideration.

CHAPTER XVII

Summary

Oregon's greatest resources are its human resources. In their cultivation and development lie Oregon's best hope - its only hope, really - for the achievement of its highest aspirations - economic, social, and political.

One of Oregon's most important concerns must therefore be insuring that there is available to residents of the state a sufficient variety of educational opportunities and a capacity sufficient to permit the fullest development of the state's human resources. In this report we are concerned with the matter of planning to meet the post-high school educational needs of those who can benefit from, and are likely to avail themselves of, post-high school educational opportunities under favorable conditions.

Need for Variety in Post-High School Educational Learning Opportunities

The requirement of a wide variety of formal and informal educational opportunities beyond the high school in Oregon stems from: (1) the values which our kind of society places upon the worth of the individual and the importance of individual self-fulfillment, that is, the development of the individual's potentialities, and (2) the seemingly insatiable demands of society for educated and trained persons at all levels of social, economic, and political activity, through which the work of society is accomplished.

Free Society's Commitment to Individual Self-Fulfillment

Ours is a free society. As such, it is, as the Rockefeller report reminds us, "the declared enemy of every condition that stunts the intellectual, moral, and spiritual growth of the individual."[1]

Our society is committed to the concept of the realization of individual potentialities. In this commitment, education is the chief instrument of our policy. For we see education, as Horace Mann did, as being ". . . beyond all other devices of human origin, the great equalizer of the conditions of men - the balance wheel of the social machinery."[2]

But men are not all equal in their natural endowments. Nor are they in their potentialities. And education is incapable of making them so. Hence, we are faced with an interesting paradox. If we are to provide Oregon's citizens with equal opportunity to develop their abilities to the limit of their capacities, we must offer them a variety of different and, in a real sense, unequal educational opportunities. For there is no greater inequality perpetrated in an educational sense, than when individuals of unequal ability are treated educationally as if they were equals.

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[1] Rockefeller Bros. Fund Special Studies Project, op. cit., p. 1.

[2] Mark Van Doren, Man's Right to Knowledge and the Free Use Thereof (New York, N.Y.: Columbia University Press, 1954), p. 14.

To the one-talent individual, an educational program or learning opportunity designed for the ten-talent individual is sheer futility and frustration. Conversely, if the ten-talent individual is limited in his learning opportunities to those having meaning for the one-talent individual, there is not only frustration and futility, there is the inestimable loss of human potential unrealized.

If, in Oregon, we would approach the goal of a free society, namely the offering to each individual the maximum opportunity to develop to the limit of his ability, we must be prepared to offer to each, learning opportunities measured to his abilities and tempered to his potentialities for growth.

For many in Oregon, graduate and advanced graduate education alone can provide the rigorous, mind-stretching experiences to challenge their potentialities. For many more, a four-year baccalaureate program in the liberal arts, in technology, or in a professional field will suffice. Still others will find that their needs are met in two years of post-high school formal education in a vocational or technical field or in the liberal arts, while for still others, informal learning opportunities such as on-the-job or apprenticeship training would be of greatest worth.

It was concern for the attainment of this ideal that prompted the Educational Policies Commission to suggest, in discussing universal education beyond the high school, that:

> A person cannot justly be excluded from further education unless his deficiencies are so severe that even the most flexible and dedicated institution could contribute little to his mental development. . . . In the future, the important question needs to be not "who deserves not to be admitted?" but "Whom can society, in conscience and self-interest exclude?"[1]

It must be obvious that the foregoing observation has relevance only in the context of differentiated educational opportunities, readily available to the people of the state.

We do not mean by what we have said above that we value any the less the equalitarian principles so firmly rooted in our heritage. What we have said about the inequality of men in their abilities, or in their potentialities for benefiting from various kinds of educational and learning experiences, has nothing whatever to do with the equality of men before the law, or the right of all men in a free society to the opportunity to earn and to be accorded respect as persons of worth, however humble their origins, however modest their abilities, or however lowly their station in life. These values are an integral part of the moral heritage of a free society. If ever the bell tolls for these, we need not send to know for whom it tolls. For these values cannot be diminished without ourselves, and society in general, being diminished equally.

In sum, we need more to be reminded than informed that if we would develop Oregon's human resources efficiently, we must:

1. Provide a wide variety of educational opportunities, formal and informal, and make them readily available to the residents of our state.

2. Encourage individuals to follow that bent which will lead them to the fullest realization of their potentialities, assured by society that human dignity and worth will be ascribed to them on some other basis than whether or not they followed a given educational program, thought by some to have universal value for all. For only when it is evident that society accords respect to individuals

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[1] The Educational Policies Commission, op. cit., p. 5.

in all areas of educational and occupational endeavors will individuals seek out the educational opportunities most closely related to their abilities, and thus achieve the fullest realization of their potentialities.

No one familiar with post-high school education can fail to have been struck by the frequency with which the student's post-high school objectives are mismatched with his abilities and aptitudes, or how often the student is enrolled in post-high school programs quite out of keeping with his abilities and aptitudes. More often than not this mismatching of objective with ability stems from the specious value placed by the student and his parents upon a particular kind of education, as a means of attaining respect and status in society. We must find a means in Oregon of encouraging young people and their parents to make choices vis-a-vis post-high school education, whether formal or informal, on the basis of a realistic assessment of the student's abilities and aptitudes, rather than in terms of some false sense of prestige.

Society's Seemingly Insatiable Demand For Qualified Persons at All Levels

The second consideration which argues for a wide variety of post-high school educational and learning opportunities is that an increasingly complex society requires human talents of a wide variety - achievement at many levels. Indispensable to our future as are the brilliant minds that work at the boundaries of knowledge, they cannot, of themselves, meet all of the disparate demands of our complex economic machine or of our social order. Men of different and lesser abilities and skills are also required. As Berkner suggested, in discussing the emergence of brainpower as the critical ingredient in the enlargement of national wealth, in technological industry, ". . . For each Ph. D. we can employ 5 to 10 engineers, and for each engineer we can use 10 to 15 skilled workers."[1] This hierarchy of opportunity and need is everywhere apparent.

There is a temptation to see these manpower demands in terms of specific shortages in given fields at a given time. But we have been warned, wisely, we think, by the Rockefeller Brothers Report, against the attractive assumption that these needs can be met piecemeal. "Rather," says the report, "we must prepare ourselves for a constant and growing demand for talents of all varieties and must attempt to meet the specific needs of the future by elevating the quality and quantity of talented individuals of all kinds."[2]

Numbers to Be Accommodated in Post-High School Education

The numbers to be accommodated in post-high school education in Oregon are related to the projected population in the state and the proportion of that population that may be expected to enroll in post-high school programs, formal and informal.

Population Growth and Distribution in Oregon

1. Population estimates from the U. S. Bureau of the Census and the Oregon State Board of Census suggest that, contrary to what some have assumed, Oregon's rate of population growth 1960-1980 is expected to be slightly below the national rate of growth.

Projected national growth 1960-1980	37.5 percent
Oregon's projected growth 1960-1980	32.4 percent

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[1] L. V. Berkner, Remarks at the National Science Foundation Colloquium, Dallas, Texas, December 12, 1962.

[2] Rockefeller Bros. Fund Special Studies Project, op. cit., p. 11.

2. Oregon's population is concentrated in the western one-third of the state.

   86 percent of Oregon's population is in western one-third of the state.
   14 percent is in the eastern two-thirds of the state.

3. Oregon's population aged 18-24, the predominant post-high school student group, is also largely concentrated in the western one-third of the state.

   Estimated 87 percent in western one-third of the state.
   Estimated 13 percent in eastern two-thirds of the state.

4. The distribution of Oregon's population within the state is not expected to change materially during the next decade, short of some dramatic change not now in view, such as the bringing of water to the eastern part of the state for widespread irrigation projects, or the development of a major industrial complex in the eastern part of the state. Such developments, if they occur, would change the population projections for Oregon, too.

Projected Enrollments in Post-High School Education

1. Though the numbers of high school graduates in Oregon will continue to increase during the next decade, the rate of increase in numbers of high school graduates is expected to decline.

   In 8 years (1956-57 to 1964-65) high school graduates in Oregon increased 87.8 percent (16,910 graduates in 1956-57; 31,732 graduates in 1964-65).

   In 10 years (1964-65 to 1974-75) the projected increase is 18.3 percent (31,732 graduates in 1964-65; 37,548 graduates projected for 1974-75).

2. The projected decline in the rate of increase in high school graduates in Oregon should not be understood to presage a corresponding decrease in post-high school enrollments. There are a number of factors other than the number of high school graduates that are likely to have an impact on post-high school enrollments, such as: (a) the increasing proportion of high school graduates going on to post-high school education, (b) the increased retention of students in our colleges, (c) the increasing numbers of graduate students enrolling in Oregon institutions, (d) the increasing numbers of adults who are enrolling, as additional kinds of post-high school learning opportunities are made available through the expanding network of community colleges in Oregon, and as there are increasing incentives provided by the federal government.

3. It is projected that the number of 18-24 year olds in Oregon will increase by 63,662 in the next nine-year period (1965-66 to 1974-75) as compared with an increase of 46,190 in the preceding nine-year period (1956-57 to 1965-66). This projected increase, though larger than the actual increase the preceding nine years, represents approximately the same percentage increase as in the preceding nine years, because it is applied against a larger base (34.9 percent increase projected, compared with a 33.9 percent increase 1956-57 to 1964-66).

4. Enrollments in Oregon's colleges, public and independent, are expected to increase 51,470 (90.7 percent) during the next nine years (1965-66 to 1974-75). This is a larger number increase but a smaller percentage increase than occurred during the previous nine years (1956-57 to 1965-66) when the numbers enrolled in public and independent colleges and universities in Oregon increased by 31,986 (129.2 percent).

What Are the Educational Resources in Oregon With Which to Meet the Demands for Post-High School Education?

Oregon's educational resources available for meeting the demands for post-high school education consist of the following: (1) the State System of Higher Education, (2) the independent colleges and universities, (3) the community colleges, (4) the proprietary (private vocational) schools, and (5) learning opportunities offered by a wide variety of agencies, including industry, labor, government and various voluntary associations.

In projecting post-high school enrollments we have confined ourselves to college enrollments. We have made no effort to calculate the numbers who will enroll in the proprietary (private vocational) schools, or in the post-high school learning opportunities offered by non-educational agencies. This is not to be interpreted as meaning that the committee on post-high school education does not consider these learning opportunities important. They are important! For we believe that even the range and variety of formal educational opportunities available in the four-year colleges and universities and in the community colleges is inadequate to the needs of many young people in Oregon who would benefit little, if at all, from formal education beyond high school, but who would benefit enormously from some types of informal learning opportunities of which various forms of on-the-job training are illustrative.

We do take note of the fact that the enrollments of the 118 private vocational schools considered in this report totaled 25,878 in 1964-65. Of this total, approximately 73 percent (18,875 students) were enrolled in home study courses offered by five correspondence schools. Of these 18,875 students, more than 95 percent were residents of other states. Excluding the home study students, but including the resident students in three of these institutions, there were 7,154 enrollments in the 118 private vocational schools included in this study (Chapter VII). We would emphasize that these enrollments include programs that a student may complete in periods varying from as little as one week to one year or more.

The committee was told by representatives of the State Department of Education that the proprietary schools themselves calculate that, considering all of their programs, from the very short ones of a week and slightly more in length, to those of a year's duration and more, they are able, with their present capacities to handle approximately 20,000 enrollments in the course of a year. These are not full-time equivalent students, but simply registrants in programs of varying lengths, as we have indicated.

It should probably be said, however, that the proprietary schools, as a group, are susceptible to indefinite expansion, should the demand require, for although they are service-oriented, they are also profit-motivated. To the extent that the demand is sufficient to serve this motivation, presumably private vocational school learning opportunities will expand to meet the demand.

In witness of the importance that the post-high school study committee ascribes to the proprietary schools, we have included a recommendation in our report that the proprietary schools be given representation on the Educational Coordinating Council for the state (Chapter XVI), and that representatives of the proprietary schools be invited to membership in the statewide High School College Relations Council, newly formed in Oregon (Chapter IV). We have also recommended that there be much improved communication between the proprietary schools and the community colleges of Oregon (Chapter VII) in the interests of more effective coordination of planning for needed post-high school resources in the vocational education and training areas. Other committee recommendations relating to the proprietary schools are included in Chapter VII, which we commend to the reader.

With the foregoing explanatory note concerning non-college enrollments in Oregon, we turn to the collegiate institutions of the state which will enroll the great bulk of the post-high school students of the state in the years just ahead.

Committee Premises Concerning Proximity of Post-High School Educational Programs to Students

It is known from long experience that the proximity of collegiate institutions to the homes of students has an important bearing on the proportion of young people of an area who will seek a college education.

Two-Year Programs

We believe that it is also true that if an individual, uncertain of purpose or short on financial resources, is able to secure the first two years of his post-high school education within easy reach of home, the odds are much greater that he will go on to further schooling, assuming that he has potentialities and abilities to warrant further formal education, than if the initial opportunity were not close at hand.

Hence, the committee on post-high school education recommends that two-year post-high school educational opportunities be made available in Oregon within one hour's commuting distance of high school graduates, except where sparsity of population makes this wholly impracticable. To achieve this goal, additional community colleges will need to be established in Oregon, as we shall note later in considering the committee's recommendations on this matter.

Four-Year Programs

We think that the state has no obligation, and certainly not the resources at present, or in the foreseeable future, to place four-year college programs within commuting distance of all of Oregon's high school graduates. We believe that at this stage of its development, when the state has placed its four-year institutions in locations which recognize the several regions of the state, it has done all that may reasonably be expected in terms of placing four-year institutions in proximity to the student-age population of the state.

The individual desiring a four-year program who does not live within commuting distance of a four-year institution can move to the proximity of one, either as a freshman, or, if he wishes, when he has completed one or two years at a community college. Creation of the additional community colleges recommended by the committee will permit the great majority of those desiring access to a two-year program to secure those opportunities at minimal personal expense, providing community college tuition rates are kept at the level recommended by the post-high school study committee (not to exceed approximately one-fifth of the per student operating costs in the college), and provided student financial aid is available to those needing it.

Vocational-Technical Education

Though an aspect of undergraduate education, the importance of vocational and technical educational opportunities to Oregon's post-high school population is sufficiently great to warrant special consideration in this summary. A much more extended discussion is to be found in Chapter V.

Vocational Education. Vocational education, in a variety of forms, should be available within commuting distance of prospective clientele throughout Oregon, except in those instances where sparsity of population makes it wholly impracticable. In these latter instances, the individual wishing to secure vocational training should be financially assisted, where financial need is evident, to secure the necessary vocational training, even though it means his leaving home to do so. With the expansion of community college services to additional areas of the state, as recommended by the post-high school study committee in this report, the overwhelming majority of Oregon high school graduates will live within commuting distance of the vocational and technical programs offered by the community colleges.

In addition, there is a wide variety of vocational opportunities available in the proprietary schools. These, however, tend to be located in the metropolitan areas of the state, particularly Portland and, to a much lesser extent, Salem, Eugene, and Medford. We have said earlier, and we reiterate, that there needs to be readier and more frequent communication between the community colleges and the proprietary schools in their areas, to the end that any unwise or unnecessary duplication of resources may be avoided. It was to this end that the 1965 Legislative Assembly enacted a law authorizing the community colleges, under certain conditions, to contract with private vocational schools to provide services to students enrolled in the community colleges. We have elsewhere (Chapter VII) made recommendations concerning the means of improving this communication.

Technical Education. We think that wide-ranging technical education, unlike vocational education, cannot and ought not, in the period covered by this report, to be made available within commuting distance of Oregon's high school graduates in anything like the degree to which vocational programs should be.

We are of the opinion that two-year programs in technology should and will develop in the community colleges, particularly those situated in the major metropolitan areas of the state, notably Portland, Salem, and Eugene. But we do not expect that in the next decade there will be either the demand or the financial resources to permit the development of extensive programs in technology in the community colleges throughout the state, of a calibre to qualify for accreditation by such accrediting agencies as (in the case of the engineering technologies) the Engineering Council for Professional Development (ECPD). Such technology programs are expensive to develop and staff and are warranted only when the projected student clientele is sufficiently large to justify the investment.

We would anticipate that for a student to have a selection from a wide variety of two-year technology programs he would, at least during the next decade, depend upon Oregon Technical Institute and the community colleges in such centers as the Portland, Salem, and Eugene areas, which, among them, will make available a range of offerings in technology.

As for four-year technology programs leading to a baccalaureate degree, these, insofar as the engineering technologies are concerned, should be restricted to two state system institutions (OSU and OTI) serving a statewide need. We think this adequate to the need. For we are of the opinion that the number of students seriously interested in a baccalaureate degree in engineering technology and qualified to succeed in such programs in the immediate future is insufficient to warrant the state's investment in more than two institutions in the state serving this need.

In the field of medical laboratory technology, the first three years of the four-year baccalaureate program are available in four-year colleges situated throughout the state, and at OTI. The fourth year must be taken in an accredited laboratory or hospital school or at the University of Oregon Medical School. In Oregon these accredited hospital schools are situated in the Portland metropolitan area, with the exception of one in Eugene, which is not, however, presently affiliated with a four-year college or university, and whose students, therefore, do not earn a baccalaureate degree. It is not entirely clear to the post-high school study committee whether or not additional hospital schools are required or would be useful in the offering of the fourth year of the four-year baccalaureate program. A study of this matter is presently under way by the State Board of Higher Education. The results of this study should be available before the end of this year (1966).

Graduate Programs

No clamor for the placing of graduate programs in close proximity to students throughout the state should be permitted to encourage the development in Oregon of multiple mediocre programs in any single academic or professional field of study.

Graduate students are mobile. Particularly is this true of advanced graduate students. They are accustomed to going to where the graduate program in which they are interested is located, for it is recognized that sound graduate programs require a concentration of resources, including a concentration of qualified graduate students. Such programs are not to be found at every crossroads. The interests of Oregon students and of the state itself will be best served when no more graduate programs are established than can be maintained at a high level of quality.

It is obvious that we need fewer graduate programs than upper-division programs, and fewer upper-division programs than lower-division programs. For as one moves up the educational ladder from lower division to upper division, to master's degree programs, doctoral programs, and finally post-doctoral work, the proportion of the population which can qualify for, and benefit from, the next higher level of work diminishes.

Moreover, we have not the resources in Oregon to mount high-quality graduate programs in more than a very limited number of locations. For, though a high-yield investment, graduate education is high-cost education, for the reasons we have discussed in Chapter VI.

The maintenance of high-quality graduate education in Oregon is possible only under a system of curricular specialization among institutions, public and independent alike.

1. In the public institutions, in high-cost professional, semi-professional, or graduate areas requiring costly equipment, high-cost faculty and/or unique building facilities, a single institution should be given responsibility for the development of high-quality graduate work within the state's means. A second institution should be authorized to offer a program in one of these fields only when a bona fide state need for a second program can be demonstrated, and only when funds are available to support a second high-quality program without denying the existing program the resources it needs to maintain a high standard of excellence.

2. In those subject areas in which multiple graduate programs in the state can be justified educationally and economically, it is urged that institutions plan cooperatively so that, insofar as feasible, the institutions develop complementary emphases within such programs rather than mere replications, one of another.

3. New professional or graduate programs should be launched only if there is clearly evident at the time, or in the immediate future, sufficient financial support for the program to develop it to a respectable standing; to enable it to become accredited, where appropriate; and, once accredited, to maintain its accreditation.

Since institutional specialization lies at the heart of sound graduate education in Oregon, institutions considering the addition of a graduate program should be expected to evaluate realistically the need for such a program. Among the factors to be considered are these:

1. The relationship of the proposed program to the objectives of the institution. Does the proposed program fit logically into the objectives of the institution, or will its launching require support which can only be gotten by diminishing the support needed in a program more clearly within the scope of the institution's objectives?

2. The relationship of the proposed program to existing programs in other institutions in the state. Is the proposed program intended to supplement, complement, or duplicate existing programs in this subject area in the state? In the light

of the existing programs in the state, why is the proposed new program needed? Is it designed to serve primarily a national need? A state need? A regional need?

3. The growth prospects of the proposed program. How many students will it serve initially? In the immediate future? In a long-ranging future?

4. The extent of society's need for persons of the qualifications represented by graduates of the proposed program?

5. The institutional capabilities for offering a high-quality program. Does the institution have, or can it acquire within a reasonable time, the library, laboratory, or other necessary physical facilities and equipment required for a high-quality program? Enough well-qualified staff members? Does it have strength in related disciplines, if such strength is requisite to the establishment of a sound program in the subject matter area of the proposed program?

What Institutional Roles Will Insure a Varied Post-High School Educational Fare in Oregon?

The committee would like here, briefly, to review the nature of the roles which it feels may most appropriately be played by the colleges and universities of Oregon during the period extending through the next decade, in providing the varied post-high school fare required by Oregon's needs.

The Community Colleges in Oregon

The community colleges of Oregon are the "open door" institutions of the state. They should be located throughout the state in a manner such that graduating high school students will, with some exceptions occasioned by sparsity of population, find themselves within commuting distance of a publicly supported institution.

Maintaining an Open Door Quality

Oregon's community colleges should admit all high school graduates and others over 18 who can benefit from the programs available there. As "open door" institutions, the community colleges should admit not alone those who have the traditional academic credentials attesting to their capacity to benefit from post-high school educational opportunities, but also, those who lack such evidence, but who have the will and the desire to try. Actual performance is superior to any tests thus far devised for measuring capacity. It is this performance test that Oregon's community colleges make readily available to those whose best hope is to demonstrate that they have the capacity to benefit from post-high school education. In the community colleges, such individuals are given the chance to try.

The standards of probation and retention in the community colleges should also reflect the "open door" characteristics of these colleges. That is, the community college student should be permitted to test himself against the requirements of several programs, if such try-out is necessary to his "finding" himself, or, if experience proves it to be necessary or desirable, he should be permitted to enter an appropriate remedial program without danger of being discharged from the college.

Two other provisions will contribute to keeping Oregon's community colleges truly the opportunity institutions they are intended to be. The first is to keep tuition and fees at a reasonable level. The committee recommends that tuition and fees not exceed roughly one-fifth of the per student operating costs. The second is for the state to provide student financial aid to community college students to a degree not presently available to them. These two matters are discussed in some detail in Chapter IV.

Program of Offerings Broad

The program of offerings at the community college must, of necessity, be much broader than the offerings in the traditional liberal arts college. This is so because the liberal arts college is selective in the persons it admits, whereas the community college is not. Hence, the persons admitted to a community college vary far more widely in the nature of their interests and abilities than those who enter the traditional liberal arts program. It is the responsibility of the community college to serve these disparate interests and capacities through the following services.

1. A strong counseling program. Since try-out and exploration are so important to community college students, an effective program of guidance and counseling is imperative. And it must be a functional program. For without it, the community college will not serve effectively a great many of its students who must "find" themselves through their community college experiences.

2. Vocational-technical programs of a wide variety.

3. A two-year liberal arts program permitting students to meet lower-division requirements of the four-year institutions.

4. General adult education programs.

The community colleges in Oregon, are, then, a principal link in the educational chain extending beyond the high school. Because they are more widely dispersed throughout the state than other post-high school institutions or agencies, and because they offer such a wide range of opportunities, they may be thought of, in some senses, as the first line of Oregon's post-high school educational defenses.

Their Appeal to Students

The community colleges are inviting to students for many reasons. The most obvious, though not necessarily the most important, is their proximity to the homes of students. For those students living within commuting distance of a community college, the college offers the prospects of a two-year liberal arts program, vocational-technical training, general adult education, and counseling service, at minimal personal expense. And to all individuals in Oregon desiring vocational training or retraining, the community colleges offer vocational training opportunities found, really, in no other institutions of the state in the variety in which they are found in the community colleges. In making this observation we do not overlook the private vocational schools or the technology programs available in the institutions of the State System of Higher Education.

And for those students in Oregon who are interested in earning, eventually, a baccalaureate degree in the liberal arts, but who lack the academic credentials for admission directly to the four-year institutions, the community college is an answer. It is an answer, as well, for those students who, though they have both impeccable academic credentials and the financial resources necessary to attendance at a four-year institution, prefer, at the outset of their collegiate careers, a smaller school and more familiar surroundings.

Finally, the community colleges have a special place in Oregon in the offering of general adult education programs and vocational and educational guidance to many of Oregon's residents who are neither interested in, nor qualified for, admission to the four-year institutions.

We do not mean to imply by what we have said above concerning general adult education and guidance, that the community colleges are the only institutions or agencies in Oregon providing such services for those who are not interested in formal, degree-oriented education. This is a broad and an expanding area of education, and there are many resources at work in Oregon operating in this field, including the institutions of the State System of Higher Education (Division of Continuing Education and the Cooperative Extension program) and the independent colleges and universities.

In Carefully Defined Situations Student Housing May Be Justifiable

While Oregon's community colleges have been established, and should be maintained, as principally commuter institutions, it must be recognized that, in some areas of the state, low population density in the area education district makes it impracticable for all students in the district to commute. And, in some instances, the community college may offer vocational-technical courses not available elsewhere in the state, or more conveniently situated for some out-of-district students than similar programs elsewhere and, hence, attractive to out-of-district students. These two circumstances suggest to the committee that the local boards should be authorized to provide student housing for this small, but important segment of the student body - not at state expense, but to be financed from future users' fees.

We have recommended in Chapter VIII that the legislative assembly empower area education district boards to provide housing in carefully defined situations. Important to the wise use of such authority is the development by the State Board of Education of criteria or standards which would prescribe under what conditions the community colleges would be permitted to provide student housing.

Liaison With the Four-Year Institutions

Although many of the community college students will be enrolled in terminal courses and will never wish to transfer their credits elsewhere, for many others who will wish later to transfer, it is critical that there be effective liaison between the community colleges and the four-year institutions.

It is the committee's view that, in the case of the college transfer programs (liberal arts courses), there is presently a very effective liaison which provides for the ready transfer of students from the community colleges to the four-year institutions (Chapter IV). This liaison has developed out of the stipulation in the Oregon law (ORS 341) to the effect that, until the community college is appropriately accredited, its college transfer courses, and the instructors to teach them, must both be approved by the State Board of Higher Education before the courses may be offered. This has, in the committee's view, proven an eminently effective arrangement in the establishment of soundly based college transfer programs in the community colleges.

Two additional steps might usefully be taken to cement still further this effective working relationship between the community colleges and the four-year institutions of the state. The State Department of Higher Education and the State Department of Education should:

1. Lead out in the development of plans for promoting among professors in the same subject matter areas in the two- and four-year institutions, a ready, easy means of communication which will reflect the seamless character of education from the freshman through the senior year, and the shared concern of the professors in the two- and four-year institutions that Oregon's students shall have access to quality education at all levels of their collegiate program.

2. Develop a clear description of the transfer possibilities between the community college technology programs and those offered at the Oregon Technical Institute and Oregon State University. This statement would be a companion to the statement presently available from the state system community college committee,

which sets forth in detail the transfer possibilities in the liberal arts and professional areas.

We believe that, as the community colleges are accredited by the Northwest Association of Secondary and Higher Schools, the State System of Higher Education community college committee should continue to maintain a close contact with the community colleges in order that there may be sharing of information concerning developments in the undergraduate curricula in the state system institutions and the college transfer programs of the community colleges.

Finally, the four-year institutions should, as we have recommended elsewhere, expand the present opportunities through which an entering student may, by examination, challenge undergraduate courses. Such provisions would permit individuals (including community college transferees) to seek credit by examination in courses in those areas in which it appears that the individual may lack formal course work acceptable for transfer, but in which the student may have acquired substantial background, sufficient, indeed, to pass an examination over the area. This would, we believe, be of particular interest and use to those community college students, who, having acquired credits in non-college transfer programs of the community college (vocational-technical or general adult education courses), subsequently change their objectives and desire to enter a program leading to a four-year baccalaureate degree in the liberal arts.

Not Starter Units For Four-Year Institutions

Oregon's community colleges have an important role to play in post-high school education. No other institution fills that role, or aspires to. It is important, therefore, that the community colleges give themselves over completely to meeting the needs which they were created to serve.

In no case should community colleges be considered starter units for four-year institutions. For so to consider them is to weaken their resolve to fulfill in a creative fashion the unique role they were created to fill. A firm reassurance should be given the community colleges now in being, and to others, as they are established, that the state plan for post-high school education does not envision their ever developing into four-year institutions.

When there is need for an additional four-year institution, one should be created to serve the needs which have called it into being, leaving the community colleges throughout the state to continue, uninterrupted, their unique and valuable service to the people of Oregon.

Filling the Teacher Needs in the Community Colleges

The rapid growth in community colleges, both in Oregon and elsewhere, highlights the need for preparation of qualified instructors who are interested in serving the students of the community college.

We commend to the four-year colleges and universities of Oregon, particularly those having graduate programs in the liberal arts, and those having special qualifications in the vocational and technical fields, the need to consider how they may most effectively contribute to meeting the growing demand for qualified instructors in the community colleges. There appears to be a particular shortage of qualified instructors in the vocational and technical areas.

Additional Area Education Districts Required to Serve Oregon's Needs

It is our view that, important as are the community college services to the area being served, six additional area education districts should be established in Oregon to bring community college services to wider areas of the state. Specifically, we recommend:

1. That an area education district be formed in Marion-Polk-Yamhill county area at the earliest possible date, and that the existing Salem Technical Vocational Community College serve as the institutional base for an expanded community college program.

2. That area education districts be established to serve the Linn-Benton counties, the mid-Columbia area, and the Washington county area.

3. That area education districts be formed as early as possible to offer community college services in Klamath-Lake counties and Jackson-Josephine counties. As we see it, the area education districts in these areas would have several options, as follows, for providing community college services to their areas: (a) the establishment of separate comprehensive community colleges,(b) the establishment of specialized community colleges, contracting with existing colleges for additional services, and (c) contracting with existing educational institutions, in or out of the districts, for such services. The residents of these districts should, after further study, determine which of these alternatives offers most.

4. That the greater metropolitan Portland area be organized as a single area education district to plan and administer the community colleges presently in being in the area, or to be established in the immediate future, as the needs of the area dictate.

Institutions of the Oregon State System of Higher Education

The Oregon State System of Higher Education consists of two universities (Oregon State University and the University of Oregon, with its Medical and Dental schools in Portland), four colleges (Portland State College, Southern Oregon College, Oregon College of Education, and Eastern Oregon College), a technical institute (Oregon Technical Institute), and the Division of Continuing Education (a service agency; not an institution).

A detailed statement concerning the institutions of the state system and the operation of the system is given in Chapter IX. In this present section of the summary chapter of this report we shall: (1) identify the roles which we anticipate and recommend that the state system institutions play in sharing with other institutions the provision of post-high school educational opportunities during the years immediately ahead, and (2) comment upon the concept of state integration of public four-year institutions as it has been exemplified in Oregon since 1929, when the Oregon State Board of Higher Education came into being.

Variety of Programs Presently Offered in State System of Higher Education

In the aggregate, the state system institutions offer a very wide range of programs, including:

- Technical education programs (Table 26, p. 100), extending from two-year programs, available at Oregon Technical Institute, the University of Oregon Medical School (radiologic technology), and the Dental School (dental hygiene), to baccalaureate degree (four-year) programs available at Oregon Technical Institute (medical technology), and Oregon State University (civil engineering technology, electrical power technology, mechanical technology, mechanical technology in agriculture, and production technology).

- Professional programs extending from baccalaureate programs in selected fields -
  - in the four regional colleges (teacher education programs in all four colleges, and business administration programs at PSC and SOC)
  - in the two universities (OSU - agriculture, business and technology, education, engineering, forestry, home economics, pharmacy; UO - architecture and allied arts, business, community service and public affairs, education, journalism, law, music, nursing, physical education, health, and recreation management)

  - to master's degree programs in all these fields and in some others, and doctoral programs in some (Table 27, p. 101). (See pp. 153-54, for listing of graduate programs available at each institution).

- Preprofessional programs are offered in some fields (e.g., agriculture, architecture, business administration, law, etc.) in institutions not having a professional program in the field (Table 28, p. 102). Upon completion of the preprofessional programs, the student is encouraged to transfer to the institution having the professional program in which he is interested.

- Liberal Arts (humanities, social sciences, and sciences), extending from baccalaureate divisional or departmental major programs in all of the four-year institutions to master's, doctoral, and post-doctoral work in these same fields available in the sciences at Oregon State University, and in the humanities, social sciences, and sciences at the University of Oregon (Table 29, p. 103).

- General adult education. Through the administrative instrumentality of the Division of Continuing Education and the Cooperative Extension Service of OSU, the state system offers extensive credit and non-credit programs of study to citizens throughout the state.

State System's Role in Providing Post-High School Education in Oregon in the Decade Ahead

It is the view of the post-high school study committee that, in the decade ahead, the State System of Higher Education should continue to play essentially the same role that it has played in recent years, as we shall explain hereinafter.

General Education. The six multi-purpose institutions (UO, OSU, PSC, SOC, OCE, and EOC) should continue to provide strong general education programs leading to the baccalaureate degree. These programs will serve those students who meet the institutional admissions requirements and who wish to attend any one of these institutions.

Although the two universities (UO and OSU) are generally considered to be the state system institutions serving statewide needs, and the other four multi-purpose institutions are spoken of as regional institutions, actually students may enroll, at their will, in any one of the six institutions in which they can meet admissions requirements.

At present (1966), the baccalaureate programs in the liberal arts areas (sciences, social sciences, and humanities) lead to:

- At the University of Oregon: departmental major degree programs in wide-ranging subject matter areas in the sciences, social sciences, and humanities.

- At Oregon State University: departmental major degree programs in a broad array of subject matter areas within the sciences and in six subject matter areas in the social sciences and humanities; divisional major programs in the three broad fields, humanities, social sciences, and science.

- At Portland State College: departmental major programs in a full array of subject matter areas in the sciences, social sciences and humanities.

- At SOC, OCE, and EOC: divisional major programs in the three broad areas, science-mathematics, social science, and humanities; departmental major programs in eight subject matter fields in the sciences, social sciences and humanities at SOC, and in three subject matter fields at EOC.

The principal recommendations which the post-high school committee makes concerning the development of the general education offerings of the state system are as follows:

1. That OSU, by virtue of its size and its academic resources, be authorized, in the immediate future, to offer baccalaureate departmental major programs in those social science and humanities subject matter areas in which it has the requisite resources but is not presently authorized such programs. The end result would be that OSU would be authorized a full array of baccalaureate departmental major degree programs in the social sciences and the humanities to match the array of departmental major programs in the sciences which it has offered for many years.

2. That, as the resources permit, SOC and EOC be authorized to extend the number of baccalaureate departmental major degree programs offered in the sciences, social sciences, and humanities. It may be anticipated that the subject matter areas in which these institutions will first develop the resources to warrant their offering departmental major programs are those areas in which they offer teacher education programs. For the strengthening of their teacher education programs, particularly for secondary school teachers, results in increased strength in the subject matter fields.

   The expansion of departmental major programs may be expected to come much more rapidly at SOC than at EOC, because of the more rapid growth in enrollments projected for SOC, which will permit increased specialization of faculty, even before the authorization of departmental major programs. By 1971-72, when it is projected that SOC will have an enrollment of 5,000 FTE students, SOC should be offering baccalaureate departmental major programs in the basic arts and science areas, a development corresponding to that of Portland State College at the 5,000 enrollment mark. Expansion of curricular offerings at EOC, an institution serving a large, but sparsely populated region, which is also served by three community colleges, may be expected to proceed at a slower pace than at SOC, because EOC's smaller enrollment will not support a great many specialized programs.

3. That, although OCE has thus far directed its attention to a special emphasis on: (a) teacher education, (b) divisional major programs in the three broad fields of science-mathematics, social science and humanities, and (c) selected pre-professional programs, OCE be authorized to offer baccalaureate departmental major programs in the academic areas of greatest student interest and of OCE's greatest academic strength. It is the committee's view that OCE's growing academic resources could serve the additional needs of many young people residing in the Monmouth-Salem area without diluting or impairing its services to teacher education, if the foregoing step is taken.

If the foregoing steps are taken, the following would be the result:

1. The state system of higher education would shortly have three, rather than two, institutions in which baccalaureate departmental degree programs would be available in a substantial number of subject matter areas within the sciences, social sciences, and humanities (UO, OSU, PSC).

2. The other three multi-purpose institutions, which are regional in character (SOC, OCE, and EOC), would have, as one of their goals the development of strong baccalaureate departmental major programs in an expanding number of subject matter areas within the sciences, social sciences, and humanities. Obviously, the rate at which these programs develop would depend upon the extent of the need, and the resources that can be turned to their development.

The committee considered at some length the matter of admissions policies in the state system institutions (Chapter IV). It concluded that admissions requirements for the four-year public institutions should continue to be established as an aspect of a unified approach to planning within the State System of Higher Education. Admissions requirements fixed for each institution should be consistent with the aims and purposes of the institution. The state system institutions should not be considered "open door" institutions as are the community colleges. Selective admissions standards seem both useful and necessary. The effect of these admission requirements should be to screen out the obviously unqualified, while providing an open field and a fair chance for those students who meet the threshold admission requirements.

The committee does not believe, however, that the admissions standards should be as selective in differentiating the universities from the regional institutions and from the community colleges as admissions standards are in some states, notably California. There is not now, and the committee thinks there will not be, in the immediate future, a need for setting differential admission standards such as to limit entering freshmen at the two universities to those in the upper one-eighth of their high school graduating class, for example.

It is the committee's view, rather, that the admissions standards should be established at a level which will give some promise that students meeting them have a reasonable chance to succeed, if admitted. When a student demonstrates that he cannot or will not meet the academic requirements of the institution to which he has been admitted, he should not be retained in the institution. If the public four-year institutions maintain a threshold admission standard, it may be anticipated that the proportion of students admitted and then dismissed for failure to maintain standards will be higher than were the admissions requirements more rigorous. The committee, nonetheless, believes that, given the situation in Oregon, and all things considered, such a policy is the wiser one for the state system institutions.

The committee is of the view, however, that admissions requirements for out-of-state students entering the state system institutions should be placed at a higher level than for in-state students. They should be placed at a level such that there may be a reasonable assurance that the students admitted will represent a genuine asset to the student body.

We believe, however, that admissions policies must be subject to continuing study, that they may provide for each institution a student body appropriate to the characteristics and aims of the institution, which, in themselves, may be subject to change.

The committee also urges that tuition and fees at the state system institutions be kept at a "reasonable" level (Chapter IV). Tuition for in-state undergraduate students in publicly supported four-year institutions ought not to exceed a minor proportion of the costs of education. In the committee's view, these costs should not exceed roughly one-third of the per student operating costs.

Tuition at these institutions for out-of-state undergraduate students should not, we feel, be in excess of roughly three-fourths of the per student operating costs. It is our view that the out-of-state student can make a significant contribution to the student body; that he represents an economic asset to the state; and that in some few instances, at least, out-of-state students can be absorbed into classes without a corresponding increase in costs to the institution, thus reducing the overhead.

Graduate and Professional Education. The institutions of the state system have provided and continue to provide the major graduate and professional educational opportunities in Oregon (Chapter VI).

It is in graduate and professional education that we see most fully exemplified the fruits of the curricular allocations program of the State Board of Higher Education. The board has constantly emphasized that in graduate and professional education, in particular, anything less than a program of the first order puts Oregon students at a genuine disadvantage. Within the limits of the financial resources made available to it, the board has sought to establish in the state at least one high quality program in those graduate and professional areas in which programs are offered. This is possible, of course, only provided that two concepts be accepted as guides to curricular development: (1) curricular specialization on the part of institutions, and (2) concentration of the state's limited resources in support of at least one high quality program with a proscription against the establishment of additional programs in the subject matter field until and unless there can be clearly demonstrated both (1) a state need for a second program, and (2) the financial resources necessary to support a second high quality program without depriving the state's first program of the student and financial support it requires in order to maintain a high level of quality.

Thus it is that the State Board of Higher Education has given to single institutions exclusive responsibility for the development of excellence in some graduate or professional education fields. As state need for a second program has become apparent and as evidence has indicated that funds are available for mounting a second high-quality program, the board has authorized the same, in a second institution, and, in some instances, a third program in still a third institution.

The graduate and professional education allocations are shown in some detail in Chapter VI and need not be restated here.

The committee on post-high school education sees the following as being among the more important of the needed developments in graduate and professional education in the state system institutions in the years ahead:

1. The University of Oregon and Oregon State University will continue to develop as major graduate and research centers in Oregon. Strides made by these two institutions in recent years in graduate education, in both a quantitative and a qualitative sense, are but a foretaste of what is to be realized in the years just ahead.

   These institutions are increasingly visible on the national scene. Their past achievements in graduate education and their promise are being increasingly recognized by funding agencies of the federal government and the major foundations of the country, as the magnitude of the grants from these sources in recent years attests.

   Such recognition tends to generate a circular response. As staff and other resources improve, as a result of more adequate support, the more widely the potentialities of the institution are recognized and the greater the likelihood that funding agencies will find merit in the institution's request for further support. We think we see something of this circular response operative in these two institutions.

But the state, too, must expect to increase its support of graduate education in these institutions and others if it would become one of the centers of brainpower from which the creative ideas of this new age are to flow.

As these institutions grow, it should be anticipated that their graduate enrollments will increase disproportionately to their total enrollments.

2. One of the most visible developments in graduate education in the state system in the years ahead will be the development at Portland State College of increasingly extensive graduate offerings at the master's and doctor's levels, and the assumption of university status by PSC. This development is foreshadowed by the guidelines adopted for PSC by the State Board of Higher Education in 1964, and by the increasing authorizations by the Board to PSC to plan and develop master's level programs in an increasing number of liberal arts and professional fields. We think this development is both a useful and a necessary one, serving the best interests of the state, and deserving of enthusiastic support.

   Our interest in the development at Portland State College of soundly based graduate programs prompts us to warn against the assumption, being made in some quarters, that the best and the principal justification for creating additional graduate study and research facilities in the Portland area lies in the rapid economic returns to the business and industrial community. We are concerned lest, these assumptions not being realized as fully or as readily as some appear to anticipate, the resulting disappointment may have an adverse effect upon the development of comprehensive graduate study opportunities in the Portland area.

   As Portland State College's graduate offerings increase, and as the community colleges in the Portland area expand in number and size easing lower-division pressures on PSC, it is to be anticipatedthat the graduate enrollment at PSC, as at the University of Oregon and Oregon State University, will grow disproportionately to its total enrollment.

3. We recommend that the state system institutions offering graduate work in Portland (PSC, UO Medical and Dental Schools, and institutions "extending" graduate work into Portland area) develop a joint-campus, or similar agreement, at the graduate level, which will permit qualified students enrolled at one institution to have ready access, under controlled conditions, to the graduate study opportunities offered by any state system institution, with a minimum of red tape. Such an arrangement already exists involving the UO, OSU, and OCE campus programs.

4. We commend the recent compact or agreement established between Portland State College and the autonomous Oregon Graduate Center for Study and Research, which provides for a joining of their forces and resources under appropriate conditions, in the interests of the advancement of graduate education and research in Oregon. We urge the expansion of such cooperative arrangements between state system institutions and other institutions of a private or independent character, including the Oregon Graduate Center for Study and Research.

5. We recommend the continued strengthening in the three regional colleges (SOC, OCE, and EOC), of the graduate programs for teachers. We believe that the state system should look toward the likelihood that, at least at SOC, as its enrollments mount and its resources increase, it will be desirable for the state to authorize the establishment of a limited number of departmental master's degree programs in the academic areas of greatest academic strength and of greatest student interest.

   SOC has already requested authorization of a master of fine arts program in classical theater in recognition of the success of the Shakespearean Festival and the contemplated construction of an indoor theater by the Festival Association. We would anticipate the development of master's degree programs, other than those in teacher education, would be slower at both OCE and EOC than at SOC, since their growth in enrollments is expected to be slower.

6. Library and computer resources being indispensable to the development of effective graduate programs, it is of critical importance that: (a) the inter-institutional studies currently under way in the state system continue, and (b) that there be developed broader based studies within the state under the aegis of the Educational Coordinating Council, as we have recommended in Chapter XIII, to promote cooperative planning and development of these resources on an even broader base within the state.

7. We urge that the master's program in nursing education being offered in the University of Oregon School of Nursing be provided the resources necessary to its accreditation. There is, in Oregon, no accredited master's program in this field.

8. In those instances in which the development of graduate programs results in the state system's offering in two or more institutions graduate programs in a given subject matter area, particularly at the advanced graduate level, systematic effort should be made by the state system to encourage cooperative planning among the institutions so that, insofar as feasible, the institutions develop complementary emphases within such programs rather than mere replications, one of another.

9. The interests of Oregon will be best served by encouraging the free flow of able graduate students across state lines and national boundaries. It would be impossible to develop graduate education of quality and scope in Oregon without a strong representation of graduate students from other states and nations. The able out-of-state graduate students, who come to Oregon on graduate fellowships and assistantships of various kinds, make a very substantial contribution to the teaching and research functions in our graduate institutions. We consider it crucial, therefore, that Oregon continue to encourage the in-migration of these students. Two provisions will help.

    a. We recommend that Oregon retain its present policy of not charging a nonresident tuition fee to able graduate students. (We do not here refer to the out-of-state student who, though he has a baccalaureate degree, is unqualified for admission to a graduate program.)

    b. Continuing attention must be given to the maintenance in Oregon institutions of sound, competitive programs of student financial assistance for graduate students, if our institutions are to be competitive with high-quality institutions for able graduate students. There is some evidence that many graduate students choose the university offering the highest stipend.

10. The committee wishes to be recorded as emphasizing, with all of the vigor at its command, the necessity for adequate support of research, if the state means to develop graduate education in Oregon, in the years just ahead, to the optimum advantage of the state.

    a. Research is essential to high-quality graduate education. One cannot speak rationally of being for high-quality graduate education in Oregon but against adequate support for research.

    b. Research is a high-yield investment. It is essential to high-quality instructional programs, and indispensable to the continuing economic and social well-being of our state.

    c. While federal funds have played, and continue to play, a significant, often predominant, role in the support of research, state funds in support of research are necessary: (1) to insure a balanced research program within the institutions, and to provide a continuing source of support, and (2) to provide the seed money with which to undertake research that will attract outside support from private sources (e.g., industry, private foundations, individuals) and from agencies of the federal government.

Technical Education. The committee anticipates that the institutions of the state system will make their contributions to technical education in the years just ahead, largely through Oregon Technical Institute, Oregon State University, and the Medical and Dental schools.

We see OTI as an institution in transition. It has been in transition almost since its inception. It has, almost from the outset, been in process of dropping educational programs at the vocational end of the vocational-technical education spectrum and replacing them with programs in technology which lead to semi-professional occupations rather than the skilled or semi-skilled occupations. Now, with the emergence of the community colleges in Oregon and with the expectation of their development of increasingly significant offerings of two- and three-year technology programs, OTI is looking toward the extension upward of its curricular offerings to the baccalaureate level (bachelor of technology).

Oregon Technical Institute should be expected to offer a range of programs in technology including two- and three-year associate degree programs in technology, and four-year programs in engineering and medical technologies.

Oregon State University has a legitimate interest in technical education at the baccalaureate level (BS degree program). It is currently authorized to offer terminal, baccalaureate degree programs in five technology fields, and should, as it seems useful, be permitted to expand the number of fields in which it offers such programs.

The prospects, indeed the probability, that there will be overlapping in offerings in the technology fields, with OTI and the community colleges both offering, eventually, two- and three-year programs in technology, and OTI and OSU both offering four-year, bachelor's degree programs in technology, is not disturbing to the post-high school study committee. Rather, we encourage this situation, provided the programs are developed no faster than the state's need warrants their development, and we thus avoid unwise proliferation of programs. In the case of the two- and three-year programs, they will be more readily accessible to residents of Oregon if available in community colleges in the major metropolitan centers of Oregon, as well as at OTI.

As for the baccalaureate technology programs at OTI and OSU, they are intended to serve the needs of different kinds of students, would lead to different degrees (bachelor of technology and bachelor of science, respectively), and would lead to employment in different kinds of jobs. This is not to say that one is superior and the other inferior. It is rather to say that the programs are different, and being different, they permit Oregon to meet the post-high school educational objectives of a wider range of its citizens who have an orientation toward technical education.

With the development of the statement of the transfer capabilities between the two- and three-year programs in the community colleges and the four-year baccalaureate programs at OTI and OSU, we shall have in Oregon an excellent variety of learning opportunities in the technologies.

We do not anticipate that there will be substantial change in the extent or the character of the technical-vocational programs in the Medical and Dental schools as they are described in Chapter V.

Continuing Education in the State System. We commend the steps that are being taken in the State System of Higher Education to integrate into a single unit the Division of Continuing Education and the Cooperative Extension Service (operated by Oregon State University from its inception). The Cooperative Extension Service staff is, and has been for many years, strategically located in every area of the state, serving the continuing education needs of the residents of even the remotest areas of the state, through the resources of Oregon State University.

The Division of Continuing Education, an administrative arm of the State System of Higher Education, has continuation centers located on or near the several campuses of the state system (six multi-purpose institutions and OTI), and draws upon the resources of the seven campuses, and from other sources as well, in providing extensive programs of continuing education throughout the state.

We believe the integration of these two services and their adequate support will provide Oregon with the means of using more efficiently its resources for continuing education.

Integrated Planning for Public Four-Year Institutions Through the State Board of Higher Education

1. The committee is of the view that, as a device for coordination of four-year public institutions, the State System of Higher Education has served the state's educational interests well (Chapter XVI). We believe that the structure provided by the State System of Higher Education provides the surest means of promoting sound, integrated planning for the public four-year institutions.
2. The concept of a flexible curricular allocations system for the development of curricula in the state system (Chapter IX), as it has been defined by the board in the state system guidelines statement, is a defensible concept which offers the basis for an enlightened restraint upon unwise proliferation of programs among institutions, without fixing upon the curricular patterns of the institutions the dead hand of meaningless custom or tradition.
3. It has been, and continues to be, in the best interests of post-high school education in Oregon for the State Board of Higher Education to have been given, until the community college is accredited, responsibility for the approval of college transfer courses in the community colleges and the instructors employed to teach them (Chapter VIII).
4. Studies should be made of the potential need for doctors, dentists, and nurses with a view to planning the long range development of the Medical, Dental, and Nursing schools to meet the expanding needs of these fields.

Independent Colleges and Universities of Oregon

Chapter X is given over to a discussion of the independent colleges and universities of Oregon.[1] In this section of the summary chapter, we shall review only briefly something of the characteristics and the importance of the independent colleges and the key recommendations which the post-high school study committee wishes to make concerning these institutions.

Independent colleges and universities (sometimes referred to as "private" institutions) are nonprofit educational institutions which return all of their revenues to their educational programs. These institutions cannot appropriately be referred to as

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[1] The independent colleges and universities of Oregon included in this study are Cascade, George Fox, Lewis and Clark, Linfield, Marylhurst, Mt. Angel, and Reed colleges, and Pacific University, University of Portland, and Willamette University. Concordia, Judson Baptist, Multnomah (two-year), and Northwest Christian colleges were included in only selected portions of the study.

"private" institutions, since they are so clearly engaged in manifestly public functions, as is detailed in Chapter X.

The post-high school study committee considers Oregon's independent colleges and universities one of Oregon's most important post-high school educational resources - important out of all proportion to the number of Oregon residents who attend Oregon's independent colleges and universities.

1. They are a crucial outpost of social criticism, such criticism often being more protected from retaliation than in the case of the public institutions. And the independent institutions can raise a responsible voice of dissent when undue pressure is brought to bear upon public institutions to implement politically- or provincially-conceived projects which would do violence to long-range goals.

2. They can assume a leadership role through experimentation and innovation; they are relatively free to act quickly. Public scrutiny often results in more attention to failures than to successes. This is understandably an inhibiting factor for public institutions and may, in some instances, keep them from accepting a challenge which independent institutions can readily accept.

3. They can assist in evaluating and monitoring the post-high school educational establishment. Their faculty and administrative personnel offer competent and articulate expertise to legislators and to the public.

4. They are, for the most part, older institutions, formed in pioneering days, and have developed specialized programs and strengths which are unique and valuable to the total cultural and educational development of the state.

5. They can help establish the wide diversity of post-high school educational alternatives desirable in any state. Several of the independent colleges and universities in Oregon have a close relationship to a religious organization. Those which do, preserve a religious tradition. But whether or not related to a church, the independent institutions reflect the freedom of special groups to form an institution of higher education consistent with their own values. By choice, some of the independent institutions may assure the continued option of a relatively small liberal arts college, when increasing enrollments are rapidly changing the size and character of the public institutions.

6. Their continued existence provides a valuable reference point from which the public may evaluate the educational and financial performance of the public institutions.

7. In some instances, they allow more opportunity for analysis of admissions criteria. Cutoff points (i.e., 2.25 or 2.5 high school grade point average) are not explicitly required, and many other factors can be considered in judging a student's admissibility.

For all of these reasons, and more, the committee on post-high school education considers it vital to the future welfare of post-high school education in Oregon that every effort be made to secure the future of the independent educational institutions serving Oregon.

Enrollments in Oregon's Independent Institutions

The independent colleges and universities of Oregon have a combined faculty of 785 (FTE) and enroll roughly one in five of the students enrolled in Oregon's colleges and universities in 1965-66 (21 percent).

Although the proportion of the total state enrollments enrolled in the independent colleges is somewhat lower in 1965-66 than in earlier years, the total number of students attending the independent institutions increases with every year. That increase is expected to continue during the next decade, according to the planning figures supplied the committee by these institutions.

One of the most significant trends indicated by the statistics on enrollments is the increase in the number and percentage of out-of-state students attending the independent colleges and universities of Oregon. With but few exceptions, institutional plans indicate that the percentage of the total enrollments in the independent institutions coming from out of state will increase in the next decade.

It seems evident that the independent institutions will become increasingly selective as they reach enrollment goals and admit a smaller percentage of the larger numbers of students applying, in the years ahead.

Post-High School Transition of Students

The committee recommends:

1. That the independent schools endorse and cooperate with the recommendations on post-high school transition developed by the Oregon High School-College Relations Council.

2. That the community colleges and the independent colleges and universities develop more effective reciprocal communications to their mutual advantage, developing information about programs which are available at the respective institutions and courses for which credit will be transferable.

3. That a program of visitations to the community colleges be inaugurated permitting the independent institutions to provide the same carefully organized assistance to counselors and students as under the existing program with the high schools throughout the state.

Staff Utilization

The committee recommends:

1. That the independent colleges co-sponsor with the state system a series of special programs which would introduce faculty to the various means of improving staff utilization, including use of technological media in the college classroom.

2. That the independent institutions establish an exchange of faculty, making it possible to offer courses in alternate year sequences, in a fashion so as to provide a broader range of offerings without proliferating staff or programs among the schools.

3. That the independent schools, through the Oregon Independent Colleges Association, and in cooperation with nearby state institutions, collaborate in hiring several outstanding guest lecture-scholars each year so as to ease the need for additional and costly faculty additions, while at the same time stimulating the various campuses with noted authorities in various fields.

4. That, to the extent feasible, the implementation of the foregoing recommendations be promoted by the Oregon Independent Colleges Association.

Research and Scholarly Activity

The committee recommends:

1. That each of the independent institutions allocate at least a portion of one faculty member's time to the fulfillment of the responsibilities of a research coordinator.

2. That the research coordinators, appointed under the above recommendation, meet periodically to exchange information and to review and discuss the talents and facilities on their respective campuses as a basis for collaboration in joint efforts to secure federal and private support.

3. That the research coordinators explore the possibilities for interinstitutional research and scholarly activity, involving appropriate staff members from the several institutions.

Graduate Education

The committee recommends that the independent colleges be urged to work closely together in the development of graduate education as outlined in this report.

Institutional Research

The committee recommends that the independent colleges and universities collaborate with the public two-year and four-year institutions on a continuing basis in maintaining in a current status, data similar to that included in this present report, so that, at regular intervals, comparable planning data may be readily brought together from the independent institutions, the public two- and four-year institutions and the private vocational schools.

The present report was not easily compiled, owing to the difficulty in getting comparable data from institutions. It is essential to the interests of Oregon's post-high school educational planning that our institutions agree upon the kinds of statistical data most useful for statewide overall educational planning and that we develop in Oregon, by systematic effort, a data bank including all that we shall need to maintain ten-year projections in an up-to-date status annually or biennially.

Miscellaneous Recommendations Designed to Strengthen the Independent Colleges

The post-high school study committee recommends:

1. That the state increase the funds available for state grants and provide that the students enrolling in the independent colleges and universities of Oregon may share in these grants. Sight should not be lost of the fact that, whatever the number of Oregon residents attending the independent institutions, the state is spared the expense of providing physical facilities and instructional resources for that number of Oregon residents. It is on this basis that some other states have provided for a fuller sharing of in-state students in independent colleges in the state's student financial aid.

2. That the institutions themselves - in cooperation with the appropriate agencies of the state, including the legislature and the educational coordinating council - establish a committee on cooperative projects in higher education with an adequate staff to concentrate full-time attention on the achievement of the objectives of agreed-upon cooperative projects. To maintain the traditional approach of competitive activity in the academic world is indefensible. Cooperative thinking need not involve such sweeping changes as to endanger totally what already exists. The independent institutions of Oregon have already made substantial inroads on specific areas of cooperation. The State System of Higher Education has, for nearly 35 years, formed the basis for effective planning in the public four-year institutions. More recently, the community colleges as a group are organized into a cooperating organization. What is needed now is an avenue for promotion of more cooperative projects through joint planning among these three separate groups of institutions. That is the purpose of the above recommendation.

3. That the independent colleges and universities be represented on all coordinating bodies authorized to formulate general policy for higher education in the aggregate in Oregon.

How Will the Anticipated Enrollments In Oregon's Colleges and Universities Be Accommodated?

Data in Chapter III indicated that enrollments in Oregon's colleges and universities, public and independent, may be expected to increase from 56,734 in 1965-66 to 108,204 by 1974-75, an increase of approximately 51,000 students - slightly more than 90 percent.

All three categories of collegiate institutions in Oregon (state system institutions, independent colleges and universities, and the community colleges) will experience a very considerable increase in enrollment over this period, as indicated by the figures below - the community colleges most especially.

	Estimated Percent Increase in Enrollment	Enrollments
State System Institutions		37,390 - 1965-66
	54.8%	57,866 - 1974-75
Public Community Colleges		7,439 - 1965-66
	327.4%	31,797 - 1974-75
Independent Colleges		11,905 - 1965-66
	55.7%	18,541 - 1974-75

The projected increases in enrollments in these three categories of institutions from 1965-66 to 1974-75 will result in a somewhat different distribution of the total enrollments among these three types of institutions by 1974-75 (Chapter III). Even though the state system institutions and the independent colleges and universities are expected to have substantial increases in enrollments by 1974-75 (more than 20,000 in the state system institutions and more than 6,000 in the independent colleges and universities), the percentage of the total enrollments in Oregon enrolling in these two categories of institutions is expected to decline from the 65.9 percent and 21.0 percent, respectively, which they enrolled in 1965-66, to 53.5 percent and 17.1 percent, respectively, by 1974-75. The community colleges, on the other hand, which enrolled 13.1 percent of the total in 1965-66, are expected to enroll 29.4 percent by 1974-75.

Each of the foregoing categories of institutions has long-range plans for meeting these anticipated enrollments.

In Chapter X, we have suggested that in the next decade the independent colleges and universities might very well continue to enroll roughly 20 percent of Oregon's college and university enrollments, as they did in 1965-66. This is simply an expression of the committee's view that the independent colleges and universities should continue to play a significant role in post-high school education in Oregon. Yet, the enrollment projections in this report, if they are realized as anticipated, suggest that by 1974-75 the independent colleges and universities will enroll 17.1 percent of the total projected enrollments. This seeming discrepancy results from the fact that enrollments in the independent colleges and universities were made by each of the institutions, independent of the other, and the total for this category of institution arrived at by simple summation of the individual estimates. Since these independent institutions are autonomous and may control both the rate and extent of their growth, they presumably could, by their desire to increase enrollments, modify their growth plans to encompass more students by 1974-75.

The post-high school study committee sees no need for the establishment of any additional public four-year institutions in Oregon during the period to 1974-75. It does recommend the establishment of six additional area education districts to provide community college services to the following additional areas of the state: Washington County, Linn-Benton counties, mid-Columbia area, Marion-Polk-Yamhill counties, Jackson-Josephine counties, and Klamath-Lake counties. And to coordinate the planning of the community college resources of the metropolitan Portland area, the committee recommends the creation of a single area education district for the area (Chapter VIII).

The committee wishes again to observe that, although it feels that its enrollment projections are based upon reasonable premises, yet the newness of the community colleges to Oregon introduces an element of uncertainty beyond any that has before existed. It is not yet clear, on the basis of the limited experience in Oregon, precisely what impact the establishment of the community colleges within commuting distance of the majority of the people of the state will have on total enrollments in the state and what their influence will be upon the state system and independent college enrollments. That is why the committee thinks it critical that the kind of projections here made be made annually so that what we learn year by year from experience may be loaded into the ten-year projections, which should be made annually.

What Are the Projected Instructional Staff Needs?

In Chapter XII the committee: (1) presents a discussion of projected staff needs, (2) discusses some of the problems Oregon faces in maintaining or improving the quality of its college and university staffs, and (3) discusses some of the considerations involved in endeavoring to make more efficient use of staff in our institutions. Here we touch briefly the salient points.

Projected Instructional Staff Needs

There were employed in 1965-66, in the colleges and universities of Oregon (six multi-purpose institutions of the state system, independent institutions, and community colleges), 3,117 instructional staff members. Based upon the premises stated in Chapter XII, the projected number of instructional staff members required by 1974-75 is as indicated for the three categories of institutions below.

	1965-66	1974-75	Percent Increase
State System Institutions	1,897	3,239[a]	70.7[a]
Independent Colleges and Universities . .	785	1,091[b]	39.0[b]
Community Colleges	435	1,851[c]	325.5[c]

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[a] Projection of instructional staff needs for the six multi-purpose institutions of the state system at a higher percent increase (70.7 percent) than the percent increase projected for enrollments for all state system institutions for the same period (54.8 percent) results in principal part from the fact that the staff projections were made on a 17.0 to 1 teacher-student ratio (basis for 1967-1969 budget request), compared with a ratio of 17.486 to 1 approved by the legislature for 1965-1967, and the actual ratio of 18.5 to 1 for 1965-66, resulting from overrealized enrollments.

[b] The reader should be cautioned that the projections for the independent institutions are not complete, since they omit estimated instructional staff needs for 1974-75 for Cascade, George Fox, Reed, Concordia, Northwest Christian, and Judson Baptist colleges, for which no estimates are available.

[c] The projected staff needs for the community colleges include the projected need for all of the community colleges presently in being (1966), and for five of the six new area education districts which the committee recommends be established between 1965-66 and 1974-75.

The Increasingly Competitive Employment Market for Staff

The exact extent of the present and pending faculty shortage is a matter of some debate. But whatever may be said of the validity of the opposing views concerning the potential supply of qualified persons from which the colleges and universities can recruit their needed faculty additions, it seems to the committee clear that: (1) there is before the institutions of Oregon, and institutions generally in this country, a major task of expansion, (2) there are, and will continue to be, critical shortages of instructional staff in certain fields of study, and (3) the problem of recruiting qualified faculty will continue to be greatest in institutions laying upon staff the heaviest burdens and providing the least rewards for faculty services.

If Oregon's post-high school institutions and agencies are to maintain their present positions, or to improve them academically, they must, as they expand their faculties, recruit faculty members who will at the least maintain the present level of quality of the departments, and, at best, upgrade the existing departments.

The committee expects that, with the nature of the expansion of higher education throughout the country, the competition for qualified staff will grow more spirited, rather than less.

A fact to be remembered is that in their recruitment of faculty members, colleges and universities operate primarily within a regional and a national market, with the larger universities of a state or region operating almost exclusively in a national market. The prestige of the departments and of the institutions themselves is reckoned both regionally and nationally. Insofar, therefore, as departmental and institutional prestige is a factor in faculty recruitment and retention, institutions tend to be competitively in the same market as institutions of comparable prestige throughout the nation. This would be less true of the community colleges and the smaller liberal arts colleges, of course, than it would be of the universities.

In the attraction of able staff, it is the committee's view that two considerations are of primary importance: (1) the character and quality of the conditions of work offered, and (2) the economic security provided.

Teachers are principally occupied with the life of the mind. Their principal satisfactions derive from living under conditions offering the fullest freedom to promote effective development of the mind - their own and those of their students. Hence, they are concerned with assuring themselves the conditions of work necessary to their effectiveness as teacher-scholars -

- adequate library facilities
- stimulating and provocative colleagues with whom to interact
- an institutional tradition giving first rank to instructional and scholarly activities
- an adequate number of students with the interests and propensities for effective work in the area of the staff member's principal interest
- a schedule of work that does not preclude performance of high standard
- an administrative relationship which gives appropriate recognition to the importance of the teacher-scholar in the institution's operation
- protection in his work from unwarranted and debilitating interference from forces and influences seeking special privilege
- personnel policies which protect the teacher from the hazards of capricious or vindictive actions which would harass him or separate him from the institution without just cause
- personnel policies which provide the teacher with opportunity for leaves, periodically permitting him to "renew" himself through study
- adequate laboratory and classroom facilities, and adequate equipment

In short, the opportunity to live and work under these congenial conditions is the most important compensation an institution can provide the teacher-scholar.

But, though immersed in the life of the mind, teachers are, in their material needs and wants, not different from other professional people. They are concerned with sharing in the material abundance of our economy, with maintaining a reasonable standard of living, with providing for themselves and families a sense of economic security.

We would make one point unequivocally clear: As has been suggested by Ruml and Tickton, psychic income - the satisfaction derived from work well done - is not for teachers more of a substitute for economic income than it is for others. For the satisfaction deriving from work well done is not greater for teachers than for men and women in other occupations in which the talents and interests of the worker are matched with his job. In the words of Ruml and Tickton: "Work well done . . . by men and women in all occupations - has a value that goes beyond and is incommensurate with the dollars and cents received. In this the teacher is no favored exception."[1]

State System Institutions Have Lost Ground in the Salary Competition Since 1957-58

In the period from 1957-58 to 1965-66, UO-OSU, combined, have lost ground in academic salaries, when compared with the 19 state universities[2] with which they are traditionally compared, and with which they are in competition for instructional staff. In 1957-58, UO-OSU ranked eighth among the 20 institutions in average academic salary for all ranks (the average salary for all ranks at UO-OSU, combined, in that year was 98.7 percent of that of the 19 universities, weighted according to number of faculty members in the institutions). For the period 1957-58 to 1965-66, UO-OSU, combined, were tied for seventeenth place among the 20 institutions in the percentage increase in average salaries for all ranks. So that in 1965-66, UO-OSU had dropped from the eighth place they occupied in 1957-58 to fourteenth place among the 20 institutions in the average salaries paid all ranks.

Conditions of Employment in the Community Colleges

The community colleges are in their formative years. As they develop, it should be anticipated that the conditions and responsibilities of academic employment in these colleges will approach more and more those of the four-year colleges employing staff with the same characteristics. This is the trend nationally, as well.

The Uses of the Staff

The various external and internal pressures upon post-high school education have so affected the educational demand-educational resource equation in Oregon that no concession to academic tradition can be permitted to affect adversely our making the fullest and most efficient use of our educational resources. What is defensible in our operations only on the basis of tradition can have no valid claim upon the state's financial resources, strained as they will be in meeting the increasing demands upon them.

Securing an Open-Minded Appraisal of Instructional Devices and Methods. As a practical matter, it is the faculty which must ultimately live with, and make operative, any curricular changes. We think it important, therefore, to the securing of an open-minded appraisal of propositions for improving the efficiency of faculty use that the faculties of the institutions be involved from the outset and throughout the appraisal and in the development of the decisions which emerge. We are of the opinion that no effective and lasting changes in instructional matters can be achieved without the cooperation and the support of the faculty. Moreover, we believe that faculty cooperation in the achieving of greater efficiency in faculty use can be most effectively promoted when the institution makes it clear to the faculty that greater efficiency in faculty use will redound to the benefit of the faculty members in some very practical manner (i.e., increased salaries, reduction in teaching load, etc.).

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[1] Ruml and Tickton, op. cit., p. 15.

[2] These 19 state universities are located as follows: Pacific Coast, 3; Mountain States, 4; Midwest, 10; South Atlantic, 1; and West South Central, 1.

The Efficient Use of Faculty

The extent to which the increasing enrollments in post-high school education will result in commensurate increases in faculty is dependent in an important measure upon the assumptions the institutions make as to: (1) the relationship of the student-teacher ratio and of class size to the quality of education; (2) the degree to which, in the future, we may depend less upon face-to-face classroom situations, and more upon the students' independent study as a basis for student learning; (3) the extent to which the new educational devices, such as educational television, programed learning, and teaching machines, can be used to minimize the need for faculty additions as enrollments rise; and (4) the importance of curricular reform, resulting in a reduction in numbers of courses offered and a concurrent increase in the size of classes.

Student-Teacher Ratio in the State System. As developed in the discussion in Chapter XII, the committee on post-high school education feels that the state system institutional student-teacher ratio, estimated for the six multi-purpose institutions (UO, OSU, PSC, SOC, OCE, and EOC) as 17:1 is not an unreasonably low one. For the three regional institutions (SOC, OCE, and EOC) which are liberal arts colleges, the estimated ratio for 1966-67 is just over 20:1, which is the ratio Ruml and Morrison established as a desirable objective for liberal arts colleges of which they wrote. The ratio for Oregon State University and the University of Oregon is 16:1; this lower ratio is accounted for in large part, by the graduate programs at these institutions.

If the curricular review, which we recommend later, is successful in reducing the number of upper-division courses, it is conceivable that the student-teacher ratio might be increased by the increased enrollments in the remaining upper-division courses.

To the extent the community colleges of Oregon (still new and developing) assume significance as "feeders" of upper-division students into the four-year institutions of the state, the enrollments in the upper-division courses may well become better balanced with those of the lower-division. The increased upper-division enrollments may result in an improved student-teacher ratio.

We are of the opinion that there is a place for the large lecture class, if the class is combined with smaller discussion sessions which provide the student with opportunity for interaction with an instructor and his peers, as we have suggested in Chapter XII. It is probably true that, once a class reaches a size in which discussion is no longer practicable, and where the lecture is the principal means of communication between the instructor and the students, it matters little whether the instructor is lecturing to 50 or to 150, except perhaps that a larger audience puts more of a strain upon him.

Increased Reliance Upon Independent Study by Students, With Less Face-to-Face Contact With the Instructor in the Classroom. As indicated in the discussion in Chapter XII, the committee concluded that independent study activities can be defended fully on educational grounds, provided they are properly planned and supervised. It concluded also that the type of independent study program most commonly in use in the United States at present, and in Oregon institutions, namely the honors-type program, offers little promise of any economic advantage growing out of any saving of faculty time.

A second type of independent study program, found in some institutions (such as Antioch College) for many years, the work-study plan, which provides the student with alternate periods on- and off-campus, may, under certain conditions, save staff time and permit the handling of more students by a given instructor.

The committee's view is that the potentialities of these types of programs should be further examined by faculty groups within Oregon's colleges and universities, and so recommends. The committee does not anticipate, however, that independent study programs, even under the best of conditions, will have any significant bearing on the total staff needs in Oregon.

The Place of the New Technologies in the Teaching-Learning Equation. Each new technology or technological invention raises anew the hope that here is an instrument that promises both greater instructional efficiency and greater economy. The committee, after considering carefully the implications of the new technology for increased efficiency and economy concluded as follows:

1. If we ascribe to students a larger responsibility for working independently in the gathering of facts and other relevant information in their studies, preparatory to the evaluation of the meaning and the significance of this content with instructors and other students, then educational television, teaching machines, language laboratories, programed learning, and the like, all become valuable instruments in the student's independent study program.

2. Though some have objected to the depersonalized character of education sought through the use of these technological instruments, the committee views these instruments in quite another light. For, paradoxically, these technological instruments may be the means of humanizing the educational process. For such mechanized or automated instruments free the teacher to concentrate on the aspects of education that have the most relevance for lasting good, namely, the encouragement in students of the development of analytical skills, attitudes, habits of mind, and understandings that will give the student the means and the incentive for continuing independently his education through a lifetime.

Can more mileage be gotten out of the college professor if these new technologies are employed? Oregon has had rather extensive experimental experience with educational television, and the conclusions deriving from that experience are discussed in Chapter XIII.

Basic research in automated instruction is being carried on at the teaching research center of the State System of Higher Education at Monmouth. Some effective work is being done by the center, working with several units of the State System of Higher Education, in the development of automated courses. The adaptation of these automated techniques to a variety of courses in several of the curricular areas appears promising. The teaching research center is pursuing this application in other areas of the curriculum.

In sum, it may be said that the committee looks to the development of entirely compatible relationships between the automated approaches to learning and the teachers in post-high school institutions of Oregon. The principal function of the automated devices is to dispense information. The teacher's role is not primarily that of an information dispenser. Rather it is that of an interpreter of information, a planner of learning experiences for students, an advisor, a skillful mentor, who assists the student to develop analytical skills and abilities, to seek, to find, and to interpret meaningfully, information in the area for which the teacher has responsibility. We believe that the effective development of the automated approaches to learning can only serve the interests of teaching as we see these interests.

Not wishing here to treat in any detail the committee's discussion of television, we commend to the reader for further study the summary of Chapter XIII included in this final chapter, and Chapter XIII itself.

Reduction in Course Proliferation. Undue proliferation of courses is unsound economically, and in extreme form, it disposes toward unsound education. The committee recognizes that course proliferation can have a bearing upon the student-teacher ratio. But it does not follow that proliferation of courses is the only, or always the primary, cause of low student-teacher ratios in institutions. There are other factors that may have an impact in this direction.

The committee is not so credulous as to believe that the Oregon post-high school institutions have escaped entirely an affliction so common as course proliferation. Yet such proliferation as there may be appears not to have had the effect of reducing the student-teacher ratios in our public institutions below a reasonable figure. The three regional colleges are estimated to have had a student-teacher ratio in 1965-66 of in excess of 20 to 1; PSC, which is just moving into graduate work, had an estimated student-teacher ratio just over 18 to 1, and the two universities, which have extensive graduate programs, had ratios of 16 to 1.

In 1965, the five community colleges offering college transfer courses had student-teacher ratios ranging from 15.5 to 1 to 22.9 to 1.

The committee recognizes that continuing efforts must be made through faculty and administrative channels in our institutions to identify those course additions that represent undesirable proliferation of courses, and to eliminate or block the addition of such courses. But we also recognize that an important element in the psychic income of some staff members is the privilege of offering work in one's specialty. Within reason, and used judiciously by curricular authorities sensitive to the dangers of proliferation, we believe that such opportunities may usefully be provided.

Undergraduate Teaching - Has It Changed?

One of the criticisms most often heard relative to colleges and universities is that undergraduate teaching is being neglected - sacrificed to research and service or to graduate education in general.

From the committee's observation of the post-high school institutions in Oregon, it seems clearly evident that the flight from teaching, if such there has been, has not occurred in the smaller colleges. In these, the teachers are where they've always been - in the classroom. For the smaller colleges retain their student-centered, teaching-oriented characteristics. Teaching continues their paramount interest and activity.

In the larger universities, the emphasis has traditionally been somewhat different than in the smaller colleges. The large universities, with thriving graduate schools, are concerned with teaching, research, and service. But in recent years, a number of forces have been at play that have had an impact upon the extent to which professors in our universities are engaged in teaching of undergraduate courses, particularly the survey-type, lower-division courses in which freshmen and sophomore students often get their first taste of college life.

1. Professors in our universities, particularly those having responsibilities in the graduate schools, on the average are teaching fewer hours than they did 15 or 20 years ago. But they are spending less time in the undergraduate classroom for entirely justifiable reasons, as the committee has explained in Chapter XII.

2. The universities have far more graduate students than they formerly did, and for many professors in the universities, the increased load of graduate students necessarily reduces the time they can spend in undergraduate teaching.

3. There has been an increasing demand upon the time of university professors, particularly in the sciences and the social sciences, from government, business and industry.

The upshot of these developments has been that graduate assistants are being used in our universities to assist with undergraduate teaching. But these graduate assistants are usually gifted, promising, mature people, working toward the doctorate, often with prior experience on some other institutional staff as a regular instructor, and for the most part, in preparation for a teaching career. In some instances, they may be better teachers than the senior staff member whose place they have taken in the classroom. For these graduate students, the teaching responsibilities represent a significant part of their preparation to become college instructors upon completion of their doctoral degrees. What is essential is that these graduate assistants be supervised in the apprenticeship, both for the benefit of the students, and for the benefit of the apprentice.

The committee believes that it is imperative that the institutions concern themselves with more careful supervision of their graduate assistants who are employed in any aspect of teaching in the institutions, for reasons set forth in Chapter XII. We believe that the following will assist in the upgrading of the quality of the teaching service rendered in our institutions be graduate teaching assistants:

1. Efforts should be made to establish more adequate inducements, both professional and financial, for teaching assistants, which will make teaching assistantships more competitive with the graduate research fellowships for the ablest graduate students.

2. Systematic and orderly programs for providing supervision of teaching assistants by regular faculty members should be established where they do not presently exist in our institutions.

3. Institutions, having as one of their objectives the preparation of college and university teachers, should provide, in their preparation programs for all their graduate students interested in preparing for teaching careers, opportunity to secure supervised teaching experience as an important aspect of the students' total preparation leading to the terminal degree (usually the doctoral degree). Such a program should include provision for evaluation of the apprentice-teacher and the maintenance of records of his achievements as a teaching apprentice, for use in advising prospective employers of the abilities of the apprentice teacher.

What Are the Capital Outlay Projections and Physical Plant Plans for Meeting the Enrollment Demands?

Chapter XIV provides a rather detailed discussion of the extent and the nature of the physical plant planning that has been carried on in the state system institutions, the independent colleges and universities, and the community colleges for the purpose of securing efficient utilization of the physical plant, and to provide the base for long-range development of the physical plant resources to meet the increasing enrollments contemplated. We commend this discussion to the reader. Here we turn to a brief review of: (1) the projected capital outlay projections in Oregon's colleges and universities, and (2) the recommendations of the committee on post-high school education, growing out of their review of the physical plant issues in Oregon institutions of higher education.

We present in tabular form, below, the projected capital outlay budgets for the state system institutions, the community colleges, and the independent colleges and universities. The reader is cautioned that these figures are to be used with extreme caution, since unless their limitations are clearly understood, some unwarranted assumptions may be drawn and perhaps some invidious and unwarranted comparisons made among these three categories of institutions. These figures are not sufficiently comparable to permit ready utilization for comparative purposes. It should be observed that the community college figures are based upon the projected needs of 15 of the 16 community colleges which the post-high school study committee recommends be in operation by 1974-75.[1]

The projections for the independent colleges and universities include the projections for 10 institutions: Cascade, George Fox, Lewis and Clark, Linfield, Marylhurst, Mt. Angel and Reed Colleges, and Pacific University, University of Portland, and Willamette University.

State System	Educ. & General Plant	Auxiliary Enterprises
1967-1969 Biennium	$ 82,915,000	$25,115,000
1969-1971 "	78,040,000	26,805,000
1971-1973 "	53,820,000	21,105,000
	$214,775,000	$73,025,000

Community Colleges	Total Educ. & General Plant	State Funds Required
1967-1969 Biennium	$37,386,640	$20,121,955
1969-1971 "	14,880,675	6,995,356
1971-1973 "	11,934,425	4,544,878
	$64,201,740	$31,662,189

Independent Institutions	Instructional	Self-Supporting
1967-1969 Biennium	$ 6,394,722	$ 5,675,000
1969-1971 "	4,275,000	5,150,000
	$10,669,722	$10,825,000

Basic Premises of the Committee Vis-a-Vis Physical Plant

The committee's recommendations concerning the post-high school physical plant are based on three premises.

1. That the educational value of the physical plant can be measured only in terms of how well it supports the programs of the institutions and not in terms of how much it costs, how intensively it is used, or the number of square feet it makes available per student.

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[1] No projection was made for Klamath-Lake counties bacause of the uncertainty as to whether the provision of community college resources for these counties would require or suggest a need for the construction of a physical plant. The existence of OTI in that area presents some alternatives not open to the other regions in which the committee has recommended the establishment of area education districts. We believe that a decision as to these alternatives should be made only after the creation of an area education district in the Klamath-Lake counties and a study of the merits of the alternatives.

2. That investment in the post-high school physical plant is large; it is to be expected that those in charge of planning, development, maintenance, and administration of this plant - whether they be public employees, administrators of independent institutions, or owners of proprietary schools - will continue to make every effort to insure that the physical facilities serve institutional objectives efficiently and effectively.

3. That the state will continue to provide facilities in response to enrollment and curricular needs. It will not adopt artificial limitations on lower-division enrollments or manipulate its capital construction programs in specific institutions as a means of forcing students into an institution other than that of their first choice. No Oregon multi-purpose institution is yet approaching a size which would force establishment of an enrollment ceiling. Rapid development of Portland State College and Southern Oregon College as liberal arts institutions has slowed the growth of the state's two state-supported universities, University of Oregon, and Oregon State University. Development of Portland, Mt. Hood, Clackamas, and Washington community colleges, as planned over the next several years, logically should ease the pressure of lower-division enrollments on Portland State College.

   Enrollment projections of the state system's office of institutional research through 1976-77 anticipate that only one of Oregon's three largest institutions - Oregon State University - will reach fall term FTE enrollment of 18,000 during the next decade. Eighteen thousand students is not a large enrollment for a major American university.

Physical Plant Recommendations

1. Post-high school institutions should strive to achieve maximum utilization of physical plant facilities. In this effort all institutions, public and independent, should make use of appropriate management tools and procedures, including adoption of utilization objectives, maintenance of utilization records, computer scheduling, where feasible, when this will contribute to maximum utilization, sharing of specialized facilities among neighboring institutions, and, where indicated, remodeling and rehabilitation of structures functionally obsolescent but physically sound.

2. We endorse the request of the State Board of Education that a position be established in the State Department of Education to administer the community college capital construction programs.

3. Planning and construction of new facilities and remodeling and rehabilitation of existing ones should be undertaken, as required, to accommodate authorized curricula and planned curricular development. Facilities serve curricula, not the reverse. Campus plans, therefore, should reflect directly a realistic appraisal of an institution's assigned responsibilities.

4. State appropriations for new facilities should be provided in response to separate priority listings developed by the State Board of Higher Education for state system institutions and by the State Board of Education (for community colleges).

   Although eligibility for community college state construction funds is determined by formula, allocation of funds is for projects. Identification of these projects and the situations existing at the institutions for which they are proposed, including extent of utilization of already constructed facilities at established institutions, should make it possible for the State Board of Education to develop criteria upon which priorities could be established.

5. An outside committee, even one including representation from the independent colleges and universities of the state, cannot presume to advise the independent

institutions concerning construction and use of their physical plants. The only legitimate interests of such a committee in this case can be (a) that the independent institutions remain healthy so that they may continue their unique services to higher education and (b) that ways be found to make the services and facilities of these institutions available to more Oregon students.

6. Curricular planners must recognize that enrollments must be concentrated in groupings of optimum size if physical facilities are to show an acceptable level of utilization. This is particularly true where the program of study requires specialized facilities which cannot be used for other class or laboratory work. It is quite likely that in some professional and advanced science and technical areas one program of study can serve the population of the state for some years to come. Where this is true, opportunity for qualified students to enroll in the program should be equalized by providing adequate residence facilities, suitable financial aid, and, where feasible, developing preprofessional and joint, or cooperative, programs at non-major institutions. Arrangements to share specialized facilities among institutions, both public and independent, should be encouraged.

7. New construction and remodeling of obsolete facilities must be carefully planned to support - even enhance - instructional activities. Whenever possible some capacity for flexibility should be designed into structures so that instructional innovations may be accommodated. Inflexibility, when it generates poor utilization or premature obsolescence, is an expensive "economy."

8. Institutions, both public and independent, must include in their capital construction budgets monies sufficient to exploit in some measure, however modest, the opportunities for individual enrichment intrinsic to the structural complexes of their campuses. The post-high school institution is a cultural center. As such, the buildings and grounds should be planned in such fashion as to mirror some of the beauty that is a part of our cultural heritage. Too often, as we drive toward creation of student stations and "comfort" levels, at the lowest possible dollar unit cost, we ignore the opportunity for such incidental teaching of the importance of our cultural heritage.

9. Adequate provision must be made for non-instructional services necessary when large numbers of people are brought together in a small area. The committee finds these auxiliary service facilities are being provided, for the most part fairly adequately, by the independent institutions and institutions of the state system. Legal authority should be extended to community college districts to issue revenue bonds for the purpose of constructing student centers, bookstores, and other self-supporting student service facilities for which future users may reasonably pay. Institutions established as commuting institutions should provide student housing only if they are assigned responsibility for providing instruction for students whose homes are outside the commuting area. Facilities for student services - including dormitories, athletic and recreational areas, parking facilities, food service, student bookstores, married student housing - may account for half of the physical facilities of an institution drawing a large portion of its students from outside its commuting area. Housing bears a crucial relationship to the ability of a residential institution to increase its enrollment. Adequate parking at minimum cost located within walking distance of campus facilities can be considered a reasonable expectation of commuting students.

10. Increases in the instructional capacity of classrooms and laboratories, whether through increased utilization of present construction or new construction, are accompanied by need to provide offices for the increased numbers of faculty required to handle the added instructional load, library facilities for the larger student body, and, as required, facilities for increases in administrative, clerical, and service staff. Space standards can and should be developed for these instruction-related facilities.

11. The state of Oregon should seek such planning funds as may become available under the Higher Education Act of 1966, to finance a comprehensive study of Oregon's post-high school physical facilities. Such a study should be carried on under the direction of a representative statewide educational body.

Making Post-High School Education Effectively Available

Making post-high school education effectively available involves not only insuring that the facilities are in existence in a physical sense, but that they are accessible to the students who have the capacity to benefit from them, accessible in the sense that the student is not denied their use because of unnecessarily rigorous admission or retention policies, or because the cost of access to them exceeds the students financial capacity.

Easing the Transition from High School to Post-High School Education and Training Activities

An effective transition from high school to post-high school education and training activities is possible only when the student's post-high school objectives are carefully matched with his interests, abilities, and aptitudes. This necessitates a realistic assessment by the student and his parents of the former's abilities and aptitudes and willingness to face squarely the implications of this assessment in arriving at post-high school objectives.

Effective guidance programs are basic to the development of this self-knowledge. These guidance programs should be readily accessible to the student. The committee has made recommendations concerning the role of the high schools, community colleges, and the four-year institutions in easing the transition between high school and post-high school education and training. These are developed in some detail in Chapter IV of this study.

Transition from the Two-Year to Four-Year Colleges and Universities

Recommendations concerning the improvement of the transition of students from two- to four-year institutions are discussed elsewhere in this summary chapter, in the context of the institutions, and in greater detail in Chapter IV.

Admissions Policies

Admissions policies are discussed in this summary chapter in the context of the institutions to which they apply (i.e., state system independent, community colleges), and in Chapter IV.

Tuition Policies

Recommendations concerning tuition policies are presented elsewhere in this chapter in the context of the institutions to which they relate, and in greater detail in Chapter IV.

Student Financial Aid Programs

The committee believes:

1. A sound program of student financial aid should rest upon the basic premise that the student and his family have responsibility to make every reasonable effort to finance the student's post-high school education.

2. The state's student financial aid program should provide a variety of types of student financial aid, including grants, loans, and work opportunities.

3. Student financial aid should be granted on the basis of financial need and scholastic and other special abilities.

4. State student financial aid should be available to students attending any of a wide variety of post-high school educational institutions or agencies.

5. Student financial aid should be tied as little as possible to the kind of special eligibility qualifications that are sometimes attached to student aid programs.

6. The development of the most effective student financial aid program in Oregon requires the joint and cooperative efforts of a central state educational assistance agency and of the institutions providing post-high school education.

It is recommended that the state of Oregon, recognizing its responsibility to make post-high school education accessible to its citizens, create and maintain an education assistance commission which will administer all student aid programs financed from state funds, and which will offer leadership and provide coordination to the financial aid community. The commission should be composed of seven members - five laymen and two student financial aid officers. Lay members should be appointed by the Governor for four-year, overlapping terms. Appointments of the student financial aid officers to two-year, overlapping terms should be made by the Governor from a slate of three nominees suggested by the association of student aid officers.

The commission would have as its primary responsibilities:

1. To work with the post-high school institutions and agencies in such activities as:
    a. Standardization of financial need analysis procedures used by student aid administrators employed by the commission and by the post-high school institutions.
    b. Development of terminology consistent with the objectives of student financial aid programs in Oregon.
    c. Identification of students or prospective students needing financial aid. The commission would identify those students eligible for state financial aid grants and would make awards to them. The colleges and universities would select the recipients of work-study benefits or institutional loan fund benefits.
2. The provision of accurate, complete, up-to-date information concerning student financial aid programs, to all segments of Oregon's population concerned with these programs - students and their parents, high school counselors, institutions of higher education, donors or prospective donors, educational policy-forming bodies (State Board of Higher Education, State Board of Education, Educational Coordinating Council), and the legislature.
3. The maintenance of a continuing analysis of the student financial aid situation in Oregon, and the making of periodic reports as to the student financial aid demand-supply equation, recommended changes in the administration of student financial aid, and anticipated student financial aid needs in the immediate and more distant future.

The committee has made a number of further recommendations concerning scholarships which it believes, if implemented, would provide Oregon with a sound and equitable program of student financial aid. Stated briefly, these recommendations would:

1. Provide a program of recognition of Oregon high school seniors having records of high academic achievement. Financial aid would be provided these students on the basis of demonstrated financial need.

2. Provide assistance to students who have demonstrated a potential for success in post-high school education, either baccalaureate-degree or vocational-technical programs, on a basis of need.

3. Provide a state loan guarantee fund to increase the opportunities for students needing financial aid to obtain low-cost loans.

The committee recommendations concerning student financial aid are discussed in considerable detail in Chapter IV.

Selected Educational Resources in Oregon

The "selected" educational resources to which attention is here given are: libraries, computers, and educational television. Chapter XIII provides a fuller discussion of these resources. Here we present only some of the highlights.

Libraries

It is recommended that the Educational Coordinating Council create a library committee to give study to the development of an overall plan of coordination for library development and use, involving the resources of the state library, the libraries of the State System of Higher Education, the libraries of the independent colleges and universities, the community college libraries, and the library resources of business, industry, and government, which, in specialized areas, are very significant.

The State System of Higher Education experience in cooperation among libraries provides a useful base upon which to build what Oregon now needs, namely, a coordination of library resources, development, and use.

Computer Facilities

A coordinated, long-range plan for the development of needed computer facilities in Oregon, accessible to students and faculties throughout the state, is necessary to the long-range development of graduate study and the development of research of all kinds.

The post-high school study committee recommends:

1. A continuation of the state system coordination program.

2. The stimulation of cooperative planning and operation of computer facilities in the independent colleges and universities.

3. The exchange of information concerning computer plans among institutions of higher education in Oregon, public and independent.

4. The creation, by the Educational Coordinating Council, of a subcommittee to provide for the coordination of information concerning developments in the field of computer planning and usage by the public and independent two-year and four-year colleges and the universities of Oregon.

Television and Post-High School Education

Long-range planning for the development of educational television should place major emphasis upon identification and utilization of television's capability for the improvement of instruction in both four- and two-year institutions as opposed to emphasis solely upon television's capacity to reach large numbers of persons simultaneously.

Continuing study is necessary to identify and utilize educational television's potential for facilitating effective assignment of teachers and for coping with shortages of qualified staff. To "oversell" television as a means of meeting teacher shortages is naive and detrimental to the development of education. Judiciously used, however, television teaching can facilitate effective assignment of teachers.

Although careful cost accounting thus far has not demonstrated that television teaching does decrease costs of education, such a potential may exist in the use of television for direct instruction of total courses in those curricular areas where it is appropriate and does not dilute the quality of education. Continuing fiscal analyses of educational television should be conducted to identify both its potential and limitations for effecting economy in education.

The committee believes broadcast television should be developed as a major communications' medium to extend the educational resources of the state and nation to the people of Oregon.

Simultaneously, increased substantial support should be directed by Oregon institutions of higher education toward expansion and utilization of closed-circuit television for direct instruction, enrichment, and achievement of other relevant objectives. Continuing, although much less extensive, support should be given for the maintenance of an interinstitutional television instructional pattern with the goal of further exploration of interinstitutional television as a means of strengthening the state's pool of instructional resources. The long-range development of physical facilities should provide both self-contained, closed-circuit systems on each campus, and a statewide open-circuit system of educational channels that can reach most institutions and the public.

Continuing Education in Oregon

In Chapter XI, the committee has discussed continuing education in Oregon. We include here the recommendations growing out of that discussion.

Life-long learning has become a social necessity. Programs of continuing education, thus, have taken on a significance never before achieved. Oregon has a number of educational agencies, including some not affiliated with an educational system, through which continuing education programs are offered. They include such agencies as: the colleges and universities of the state system, the Division of Continuing Education of the state system, the Cooperative Extension Service at Oregon State University, the independent colleges and universities, the community colleges, proprietary (private vocational) schools, public school adult education programs, business, industry, labor, and government.

Recommendations - Continuing Education

In the interests of promoting effective development of continuing education, as discussed in Chapter XI, the post-high school study committee recommends:

1. That public and independent institutions of higher learning in Oregon stimulate the recruitment and training of people especially competent to work in the field of continuing education. Such a commitment by the colleges and universities would represent the kind of institutional awareness of and interest in continuing education that must be exemplified if the resources of the state are to be well used in providing continuing education.

2. That a council on continuing education be established in Oregon to bring together those persons who have administrative responsibilities for continuing education in Oregon. Such a council would provide the encouragement of cooperative planning

among continuing education agencies in Oregon to the end that continuing education resources may be more efficiently used. Included in the council should be representation from such agencies as the State System of Higher Education, the independent colleges and universities, community colleges, proprietary schools, industry, labor, and Colleges for Oregon's Future.

Among the functions to be served by the above Council on Continuing Education should be that of studying the complex federal-state relationships that exist, with a view to recommending steps leading to a sounder statewide attack upon the problem areas in which the federal-state relationships have developed.

3. That counseling and guidance for adults be made available through colleges, universities, and continuing education organizations on a cooperative basis. The proposed Council on Continuing Education should study the means whereby guidance and counseling resources of the state may be more efficiently used in the interests of continuing education.

4. That the Cooperative Extension Service (Oregon State University) and the Division of Continuing Education of the State System of Higher Education be integrated into one unit of the state system. The steps already taken by the representatives of these two agencies to achieve this recommended objective are to be commended.

State-Level Coordination and Administration of Post-High School Education

Chapter XVI contains a discussion of several alternatives which have been suggested for securing greater coordination in Oregon of education from the kindergarten to the advanced graduate programs. Space in this summary chapter does not permit a review of this discussion. We turn directly here to the recommendations made by the committee on post-high school education for improvement of state-level coordination and administration of post-high school education.

Recommendations - Coordination

The committee makes the following recommendations as to the coordination of:

1. Public four-year institutions.

    a. That the State Board of Higher Education continue its present role as the coordinating and governing body for the state's four-year institutions, including also the Medical and Dental schools, the technical institute, and the Division of Continuing Education.

    b. That the Oregon State Board of Higher Education be given the title Oregon State Board of Regents to make easier the differentiation of the state board having responsibility for public four-year colleges and universities from the state board having primary responsibility for elementary and secondary education and the community colleges.

2. Community colleges.

    a. That the State Board of Education be given responsibility for developing enforceable policies for the guidance of the community colleges relating to such matters as: minimum standards of curriculum, physical plant, library resources, teacher qualifications, class size, financial administration.

    b. That the State Board of Education be empowered to determine the nature of the data to be maintained and reported periodically to the State Board of Education as the basis for a continuing analysis of the operation of the community colleges.

c. That state funds for the support of community colleges be appropriated to the State Board of Education for distribution in accordance with policies developed by the legislature and the state board to reflect and protect the state's interest in the colleges.

d. That the State Board of Education be empowered to withhold state funds from any community college which, in the board's opinion, is in violation of the aforementioned policies.

e. That until they are accredited by the Northwest Association of Secondary and Higher Schools, community colleges continue to be required by law, as at present, to secure the approval of the State Board of Higher Education for any lower-division college transfer courses they desire to offer, and for instructors for such courses.

f. That the legislature be guided by the recommendations of the appropriate state education board and the advice of the Educational Coordinating Council as to when and where additional public post-high school institutions should be established.

3. All public and independent education.

a. That there be created by legislative enactment an enlarged Educational Coordinating Council, giving wider representation to educational agencies in Oregon as set forth below.

b. That the Educational Coordinating Council consist of 18 members as follows:

Four representing public higher education - Chancellor of the State System of Higher Education as a permanent member, a member of the State Board of Higher Education, and two presidents of state system institutions, selected by the state system presidents to serve four-year terms.

Four representing the community colleges - State Superintendent of Public Instruction as a permanent member, a member of the State Board of Education, and two presidents of community colleges, selected by the presidents of community colleges, to serve four-year terms.

Three representing the independent colleges - Two presidents and a trustee of an independent college selected by the presidents of the independent colleges and universities to serve four-year terms.

One representing the proprietary schools - The head of one of the proprietary schools, selected by the membership of the association of proprietary schools for a four-year term.

Two representing elementary and secondary education - Two administrators representing elementary and secondary education, to be appointed by the Oregon Association of School Administrators for four-year terms.

Four representing the citizenry-at-large - Four citizens appointed by the Governor for four-year terms.

The terms of the members of the council, except for the Chancellor and the state superintendent, should be staggered to provide stability and continuity. Initial terms should be determined by lot.

c. That the chairman of the council be selected at an annual election by the membership of the council. Only the four citizen members appointed by the Governor should be eligible to serve as chairman.

d. That an executive secretary and staff be employed by the council. Appointment of the executive secretary should be for an indefinite term, renewable each year. The executive secretary should be empowered to employ staff members, with the concurrence of the council.

e. That funding of the work of the council be by legislative appropriation and such other funds as the council may wish to accept.

f. That the Educational Coordinating Council be an advisory, coordinating body and not an administrative or adjudicating body, except as provided in item g, below. It is the hope of the committee that the coordinating council will exercise an imaginative and creative role in the further development of educational opportunities in Oregon, and that it will recognize its unique opportunity for leadership as the one agency in which there is representation from all segments of organized education in the state.

It is envisioned that the coordinating council would, among its responsibilities:

(1) Issue periodic evaluations of the status of the master plan for education beyond the high school, as viewed from the perspective of needs and resources. Such progress reports should be distributed to the Governor, the legislature, educational agencies and institutions, and the public.

(2) Develop subsequent phases of the master plan.

(3) Gather and disseminate information concerning national trends in comprehensive planning.

(4) Coordinate the planning activities of those agencies and institutions responsible for education in Oregon.

(5) Encourage cooperative projects among the several educational agencies in the state, where such seem appropriate to the needs.

g. That the council act as the state commission to administer the grant provisions of federal acts relating to post-high school education and requiring a state agency for their administration.

h. That the Educational Coordinating Council continue and extend its use of subcommittees or advisory committees, adding to the existing ones as the needs of the council shall determine.

Advisory committees presently exist in the fields of: (1) TV-radio education, (2) community colleges, (3) teacher education and certification, and (4) higher education facilities.

This present report on post-high school education recommends the appointment of advisory boards or councils in the following additional areas:

(1) Library development (Chapter XIII).
(2) Computer planning and usage (Chapter XIII).
(3) Cooperative projects (Chapter X).
(4) Continuing education (Chapter XI).
(5) Long-range planning (Chapter XVI).

The Education Assistance Commission (Chapter IV), which the present post-high school study recommends be established, will be to the council a useful source of advisory information concerning student financial aid in post-high school education, even though not officially an advisory committee of the council.

The Advisory Committee on Proprietary Schools (Chapter VII), which advises the State Superintendent of Public Instruction, could provide the Educational Coordinating Council with useful advisory information concerning the proprietary schools, though not officially an advisory committee of the council.

The committee believes that the interests of education would be well served if in the constitution there were recognition of the state's interest in post-high school education and if the State Board of Higher Education and the State Board of Education were given a constitutional base. The committee commends this view to the appropriate state officials when the revision of the constitution is under consideration.

State Financial Resources

Chapter XV of the report examines certain questions relating to the fiscal basis for the support of higher education in Oregon. This examination suggests that:

1. Oregon is a comparatively moderately taxed area.
2. Oregon is responding to the challenge of greatly increased numbers of students with a steadily increasing effort to provide them with educational opportunity.
3. The increases in general fund appropriations for state system operating budgets reflect: (a) increased numbers of students, and (b) inflation, and are not due to real increase in per student costs.
4. Even though the contribution from state tax sources to higher education has been going up and the proportion of the tax load directed toward higher education has been going up, Oregon is still spending a relatively small proportion of its total personal income for higher education.

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Appendix

BRIEF SUMMARY OF STUDENT FINANCIAL AID PROGRAMS IN NEW YORK, ILLINOIS, CALIFORNIA, AND PENNSYLVANIA

Financial Assistance to College Students in the State of New York

The University of the State of New York administers, through its student financial assistance organization, programs of scholarships and loans which are described in the following excerpts from one of its publications:

> In the private colleges, scholarships and loan programs have assumed major proportions, supported by limited endowment funds and often at the expense of faculty salaries or needed facilities. The public colleges, by offering low-tuition college opportunities, constitute financial assistance by their very existence. These two sources of aid are supplemented by a broad State program of additional assistance to students at both public and private colleges as follows:
>
> Regents scholarships. For specially talented youth, an extensive program of scholarships is available. Each year 17,400 Regents scholarships are awarded to outstanding high school students for purposes of college study. In addition, about 700 scholarships and fellowships are awarded for graduate study leading to professional careers in medicine, dentistry, osteopathy, or nursing; or to a doctoral degree in arts, sciences, or engineering. For the greater part, awards are based on family income and are adjusted in relation to the tuition charge at the college attended.
>
> Scholar incentive awards. While scholarships are designed for students with outstanding talent and are awarded on the basis of competitive examinations, scholar incentive assistance is available for every college student who demonstrates ability to complete a college program of study. There is no competition for these awards. The fact that the student has college potential is sufficient qualification for the award, provided he is attending a college in New York State with a tuition charge exceeding $200 a year. Like scholarships, scholar incentive awards are related to family income. This program is based on the realization that higher education is no longer for the specially talented alone. The pursuit of excellence, today, means realization and fulfillment of all human capacity, wherever it may be found.
>
> State University Scholarship Fund. This special fund is established for the assistance of students enrolled at State University of New York colleges. It was designed to avoid any financial hardship that might have resulted from adoption, in September 1963, of a uniform tuition charge at State University of New York colleges. Students with limited financial resources are eligible to receive, through the State University Scholarship Fund, the difference between tuition and scholar incentive assistance, so that there will be no out-of-pocket cost for tuition.

> Student loans. For the student at a public or private college who needs additional help, the New York State Higher Education Assistance Corporation offers the opportunity for the State-guaranteed bank loan. Generally the student pays no interest while in college and only 3 percent thereafter on the unpaid balance; all other costs are assumed by the State. Students who attend colleges outside New York State are also eligible.
>
> The New York State program of financial assistance to college students constitutes a determined assault on financial barriers to college study. Under that program, there is financial assistance of some type available to every student who wishes to go to college and who has the ability to profit from college study.[1] /Emphasis added./

Viewed within the framework of increasing access to education for college-bound students, the New York program is well developed. While the Regents scholarships are available to the academically talented, the scholar incentive awards help to meet the needs of the average student. Loans are available for those who need them and who attend college in or out of the state. Interest rates and repayment schedules are attractive. Loans are made by private lenders and insured by the state guarantee fund.

Illinois State Scholarship Commission Program

The Illinois State Scholarship Commission, created in 1957, offers three types of awards to Illinois high school graduates each year:[2]

1. Monetary awards in annual amounts of $750, $600, $450, $300, or a lesser amount at the low-tuition colleges. These are applicable only to tuition and mandatory fees. These awards must be used in public or private approved Illinois' institutions of higher learning.

2. Honorary awards, carrying no monetary value, are given in recognition of the student's outstanding college potential. Applicants may indicate their desire to be considered only for the honorary award. Those applicants for monetary awards who fail to demonstrate financial need, but who qualify academically, will be given an honorary award. Recipients of honorary awards may apply for consideration at renewal time if their financial circumstances should change.

3. Certificates of Merit are granted in recognition of the high school record and achievement on the qualifying examination to all state scholarship winners. In addition, those students who meet all of the qualifications of state scholarship winners, but who have chosen an out-of-state or unapproved in-state institution, will receive certificates of merit only.

Qualifications for state scholarship winners are based on academic performance in high school, achievement on a standardized college aptitude test, and other requirements having to do with residence and moral character. The awards are renewable for four years. Distribution of awards must follow a pattern: Two for residents of each senatorial district and two for each representative district of the General Assembly of Illinois, with the rest being available without regard to district.

Since 1961, approved Illinois colleges have been allowed to recommend a specific number of students who have completed one, but not more than three, years of college as recipients of state scholarships. No examination is required, but the student must be in need of financial assistance. The Commission believes that this particular activity has been helpful to the academically average student.

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[1] The University of the State of New York, The State Education Department, Handbook on Examinations and Scholarships, Albany, New York, 1964. pp. 52-3.

[2] The Illinois State Scholarship Commission Report (Deerfield, Ill.: March, 1963).

The Commission projected administration of 5,588 monetary awards during 1964-65, amounting to $2,880,000. In 1964-65, 7,188 honorary awards were projected. Eighty-three (83) percent of the monetary awards were projected to be made to students attending independent four-year institutions and .5 percent to students in independent two-year institutions.

According to the School Code of Illinois, the state scholarship program is designed to accomplish two goals: (1) to recognize the academically talented student and (2) to facilitate the use of facilities in independent institutions.

California State Scholarship Commission Program

In accordance with the California State Scholarship Law of December, 1964, the California State Scholarship Commission awards annually 16 state scholarships for each senatorial and assembly district and 3,200 scholarships at large throughout the state. Awards range in amount from $300 to $1,500 and may be used at any public or independent institution of collegiate grade located in California, and accredited by its Western Association of Schools and Colleges. Selection of winners is based on scores on the Scholastic Aptitude Test of the College Entrance Examination Board, high school grades, and financial need. No honorary awards are given. Awards are renewed if the recipient continues to need assistance and is making satisfactory progress toward graduation. Recipients who elect to attend public junior colleges in California may have their award placed on reserve until they transfer to a four-year institution. State scholarship awards may not be used to attend public junior colleges.

In 1964-65, 1,824 new awards and 3,296 renewals were granted, amounting to an estimated $3,840,000. In 1964-65, 3,272 state scholars were attending independent colleges with awards approximating $3,225,000.

Pennsylvania Higher Education Assistance Agency Program

The Pennsylvania Higher Education Assistance Agency, created in 1963, is empowered by Public Law 549 to guarantee loans made by private lenders to Pennsylvania students attending institutions of post-secondary education in the state or elsewhere. Loans of $1,000 per year maximum, with total loans, including graduate study, not to exceed $7,500, may be made. The law is written in such a manner that borrowers will qualify for the federal interest subsidy under the guaranteed loan provisions of the Higher Education Act of 1965. From June, 1964, to June, 1966, 16,182 loans totaling $12,932,313 had been guaranteed.

In December, 1965, the agency was also empowered to grant scholarships in three different categories:

1. $1,000,000 for students of exceptional ability planning to pursue an associate or baccalaureate degree program.

2. $2,500,000 for students capable of pursuing post-secondary educational programs, either baccalaureate programs or vocational technical programs.

3. $500,000 for students already enrolled in, or accepted for enrollment in, degree-granting programs.

The foregoing awards, which must be used for school-related expenses, must be used at institutions approved by the Assistance Agency. In category one, above, the granting of the award is based on financial need of recipients, beginning with the most able and working down on the list of qualified individuals. In category two, the awards are given according to the student's need and his ability to successfully complete the course of study for which he is enrolled. In category three, students enrolled in the sophomore, junior, or senior year of their program or students who enter the freshman class at least one year after their high school graduation will be considered for an award according to their need. No set number of awards is stipulated, rather, the needs of each person on the list will be met until the scholarship funds are exhausted. The agency is given the freedom of grant, simultaneously, both scholarships and loans to students, thereby providing a financial aid package.